

***Births to Black Mothers
in Massachusetts
1997-2000***

Volume I: Statewide Data

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¹ Includes mothers who selected either 'African-American/Afro-American' (48%) or 'American' (8%) as

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EXECUTIVE SUMMARY

Overview

The purpose of this report is to describe various characteristics and health indicators related to births for ethnic sub-groups of Black mothers and infants in Massachusetts – from information provided by parents and hospitals on birth certificates. Mothers who selected Black as their race were included in this report. This report then utilizes the Ancestry/Ethnicity field from the birth certificate to select subgroups within those reporting Black as their race.

While it is difficult to summarize the findings of this report, since much of its value lies in the provision of detailed data for as many subgroups of Black mothers and infants as possible, a few patterns stand out from the data. First, the majority of Black mothers in Massachusetts identified their ethnicity as African American. Among Blacks, African American mothers had the highest prevalence of many characteristics associated with poor birth outcomes, such as smoking during pregnancy, young maternal age, and low education. African Americans also had the highest percentage of low birthweight infants and the second highest percentage of preterm infants. African American mothers were the only group who were born mostly in the United States, in sharp contrast to the other ethnic groups, the majority of whom were born in other countries.

A different picture emerges for Black Cape Verdeans. While Black Cape Verdeans had high prevalence of socio-economic characteristics associated with poor birth outcomes, such as young maternal age and low maternal education, similar to African American mothers, they experienced the best perinatal health outcomes among all Black ethnicity groups in the report. Rates of several adverse perinatal outcomes were much lower for Cape Verdeans than for other Black groups, and were comparable to rates among White non-Hispanics, such as preterm births, presence of an abnormal condition of the newborn, and reported hypertension and diabetes among mothers. Cape Verdeans had the lowest incidence of low birthweight of all Black groups.

Comparing Massachusetts with U.S. Data

Overall, birth-related characteristics and outcomes for Black non-Hispanic mothers and infants in Massachusetts are favorable in comparison with the U.S. According to National Center for Health Statistics (NCHS) data for 1998-2000, Black non-Hispanic mothers giving birth in Massachusetts were more likely to receive prenatal care in the first trimester than U.S. Black non-Hispanic mothers (79.7% vs. 73.9%); and Black non-Hispanic infants in Massachusetts were less likely to be low birthweight (11.5% vs. 13.2%). For 1997-1999, infant mortality was lower among Massachusetts Black non-Hispanics than among Black non-Hispanics nationwide (10.8 deaths per 1,000 live births vs. 13.9). Also, the teen birth rate among Black non-Hispanics in Massachusetts was

40% lower than the U.S. Black non-Hispanic teen birth rate (49.8 teen births per 1,000 females ages 15-19 vs. 81.9), based on year 2000 NCHS data for Massachusetts and the U.S. The relatively favorable overall picture for Black women and their infants masks enormous variation among groups of Black mothers in Massachusetts.

The following bullets summarize findings from each section of the report.

Demographics: Black Population in Massachusetts

- According to the 2000 MDPH estimates based on Census data, **the number of Black residents in Massachusetts is 393,283 (6.2% of the total MA population).**
- **Boston had the largest Black population among Massachusetts cities in 2000**, 168,318, followed by Springfield, Brockton, Worcester, and Cambridge. In 2000, there were twenty-one communities in Massachusetts with 2,000 or more Black residents.
- **Approximately 60% of the Black population was younger than age 35**, while only 47.4% of the state population as a whole was less than 35 years of age.
- Based on 2000 Census data, **Blacks had a lower percentage of college graduates** compared with the state overall and also a higher percentage of persons with less than a high school education.
- **Blacks also had a lower average household income in 1999 and a higher proportion below the poverty level than the statewide averages.**

Births: Socio-Demographics

Based on the population of live births in Massachusetts from 1997-2000:

- **Over half (56%)** of mothers who identified their race as ‘Black’ identified their ethnicity as **African American**¹.
- **Almost half of Black mothers lived in Boston (44%)**; another 9% lived in Springfield; and 6% in Brockton. Thus, 6 out of 10 Black mothers giving birth between 1997-2000 lived in one of these three communities.
- **Ethnicity of Black mothers varied by their communities of residence.** Most Springfield mothers (85%) identified themselves as African American, compared with 62% in Boston. Somerville mothers were predominantly Haitian (60%).

- **Six out of ten births to Black mothers occurred at four hospitals:** Brigham and Women's Hospital, Boston Medical Center, Beth Israel-Deaconess Medical Center, and Baystate Medical Center. Just under one quarter of Births to Black mothers occurred at Brigham and Women's Hospital.
- **There was a higher percentage of mothers under the age of 20 among Blacks** (13%) than among White non-Hispanics (5%). The highest percentages of mothers under 20 were among African Americans (19%) and Cape Verdeans (15%). Three groups had lower percentages of teen mothers than White non-Hispanics: Nigerians (1%); Other Africans (2.2%); and Haitians (4.4%).
- **Educational attainment was highest (receipt of college degree or more) among Nigerians** (46%), about equal to that of White non-Hispanic mothers.
- **Educational attainment was lowest (% of mothers with less than a high school education) for Cape Verdean mothers (20%), and African American mothers (12%).** Also, among 'Other African' mothers, 27% of those who were born in Somalia reported having less than a high school education.
- **While 82% of Nigerians were married at the time of birth, about three-quarters (73%) of African American mothers were unmarried.** Over half of Cape Verdean (61%) and Jamaican (56%) mothers were also unmarried.
- While most ethnic groups preferred using the English language to read or discuss health-related materials, **almost half of Haitian mothers (43%) and 25% of Cape Verdean mothers preferred a different language.** Among mothers of 'Other African' ethnicity, **56% of mothers born in Somalia and 49% of those born in Ethiopia preferred a language other than English.**
- **For most ethnic groups, the majority of mothers were born outside of the United States.** Over 90% of Haitians, Jamaicans, and Nigerians and Other Africans were born outside of the U.S. In contrast, only 4% of African Americans were non-U.S.-born.

Maternal Risk Factors

- **In total, Black mothers had a greater incidence of high parity** (fourth or higher live birth to a mother) (13.9%) than White non-Hispanics (6.2%). High parity was especially prevalent among 'Other African' mothers born in Somalia (31%) and Liberia (20%).
- **Compared with other ethnic groups, a higher percentage of African American mothers reported smoking during pregnancy (16%),** and the next highest percentage was among Cape Verdeans (8%). The percentage of Black mothers of African American ethnicity who smoked during pregnancy was slightly higher than

for White non-Hispanics (12%). **Smoking during pregnancy was lowest among Nigerians (<1%), Other Africans (<1%), Haitians (1%) and Jamaicans (2%).**

- **The prevalence of smoking during pregnancy among teenage mothers was much lower for Blacks (11%) than for White non-Hispanics (32%).** For African Americans, 12% of teenage mothers reported smoking during pregnancy.
- **In total, Black mothers had a higher prevalence of several adverse health conditions** than White non-Hispanic mothers at the time of birth, including anemia, hypertension (both chronic and pregnancy-related), diabetes (both chronic and gestational), and eclampsia. However, **Cape Verdeans had very low rates of diabetes and hypertension when compared with other Black groups and White non-Hispanics.**
- **The percentage of all Black mothers for whom a previous preterm or small-for-gestational-age (SGA) infant was reported (1.7%) was more than double the percentage for White non-Hispanics (0.8%).** This is an established risk factor for giving birth to a subsequent preterm or SGA infant.

Prenatal Care

- **Adequacy of prenatal care was lower for all Black groups than for White non-Hispanics (83%).** The range by ethnicity group was 65% for Cape Verdeans to 74% for Barbadians. The percentages for ‘Other African’ mothers ranged from 56% for those born in Uganda to 74% for women born in Somalia.
- **The percentage of Black mothers whose prenatal care was paid with a public source of funding ranged from 38% for Barbadians to 61% for African Americans.** In contrast, 16% of White non-Hispanic women had prenatal care paid for with public funds.

Breastfeeding

- **Breastfeeding rates were high (80-90% range) for all ethnic groups of Black mothers, except for African Americans (59%) and Cape Verdeans (69%).** Most ethnic groups had higher rates than White non-Hispanic mothers (71%).
- **‘Other African’ mothers born in Ghana, Ethiopia, Somalia, and Kenya had the highest rates of breastfeeding (over 90%).**

Birth Outcomes

- **The incidence of low birthweight (LBW) was highest for African American infants (13%),** followed by Barbadian (12%) and Jamaican (11%) infants, and **lowest for Cape Verdeans (8.5%).** African American mothers were more than twice as likely as White non-Hispanic mothers (6%) to deliver low birthweight infants.
- **The incidence of preterm birth varied between 7% (Cape Verdeans) and 14% (Barbadians)** among Black ethnic groups. African Americans had the second highest percentage of preterm births (13%).
- **The presence of an abnormal condition in the newborn at birth was almost twice as likely for Black infants overall (22%)** than for White non-Hispanics (12%). Rates of abnormal conditions were at least 18% for all Black groups, with the exception of Cape Verdean infants, who had a lower rate of abnormal conditions (12%), equal to White non-Hispanics.

Fetal and Infant Mortality

- **The fetal mortality rate¹ and infant mortality rate²** were both three times higher for Black non-Hispanics than White non-Hispanics during the 4-year period.
- Almost half (45%) of Black non-Hispanic feto-infant deaths **weighed under 500 grams**, compared with 28% of White non-Hispanics. Only 25% of Black non-Hispanic feto-infant deaths **weighed over 1,500 grams** compared with 42% of White non-Hispanic feto-infant deaths.
- The **highest feto-infant mortality rate³** for both Black non-Hispanics and White non-Hispanics occurred in the “**Maternal Health and Prematurity**” period. This “period of risk” (any fetal or infant death weighing under 1,500 grams at delivery) represents the greatest risk for both race groups, and also represents the period of greatest disparity between the two groups. Mortality attributed to maternal health and prematurity was almost 4 times greater among Black non-Hispanics than White non-Hispanics.

¹ Fetal mortality rate is defined as: number of fetal deaths per 1,000 fetal deaths plus live births.

² Infant mortality rate is defined as: number of infant deaths per 1,000 live births.

³ Feto-infant mortality rate is defined as: number of fetal and infant deaths per 1,000 fetal deaths plus live births.

Technical Foreword

Focus of this report

This is a report about births to Black mothers in Massachusetts, including all births from 1997-2000 to women residing in Massachusetts who identified their race as Black. This is the third report of the Racial and Ethnic Minority Perinatal Health Series (following *Asian Births in Massachusetts: 1996-1997* and *Hispanic Births in Massachusetts: 1996-1999*). More significantly, this report is the first in which the Department of Public Health (MDPH) has reported on birth outcomes for detailed ethnicity groups of Black mothers and infants in Massachusetts.

Report Population

The race variable was used to identify mothers for inclusion in this report and only those mothers who selected 'Black' as their race were included for analysis. This report then utilizes the Ancestry/Ethnicity field from the birth certificate to select subgroups within those reporting Black as their race. (The actual question on the birth certificate reads: "Please check one box which you feel best describes the mother's ancestry." A list of 42 ancestry, or ethnicity, groups is available from which to choose.) Only ethnicity groups with more than 200 births between 1997-2000 were included in this report. In some cases, ethnicity categories were combined. The category "African American" in this report is a combination of two ethnicity groups: "African-American/Afro-American" and "American." In addition, ethnicity categories were combined on some city, town and neighborhood tables in order to create subgroups with an adequate number of births to provide stable statistics (footnotes are provided in these cases).

Specifically, this report provides descriptive statistics on births for eight ethnicity groups: *Cape Verdean, Haitian, Jamaican, Barbadian, Other West Indian/Caribbean Islander, African American¹, Nigerian and Other African*. In addition, mothers of Other African ancestry are further characterized by their country of birth. Volume I contains graphs and tables, and accompanying narrative, highlighting the key findings at the state level. Volume II contains data for 13 Massachusetts cities and towns and 10 Boston neighborhoods. Since most of the births to Black mothers (45%) occurred in the city of Boston, there were 10 Boston neighborhoods with sufficient numbers of births to Black mothers to present data by detailed ethnic groups. The decision of which ethnicity groups to include for each of the selected cities, towns, and neighborhoods was based on the numbers of births in an ethnicity group. The comparison group for these analyses is White non-Hispanic mothers since this group presents a numerically large group that has favorable birth outcomes.

¹ Includes mothers who selected either 'African-American/Afro-American' or 'American' as their ethnicity.

Purpose of the Report

The purpose of *Births to Black Mothers in Massachusetts: 1997-2000* is to provide data on birth-related characteristics for ethnic subgroups of Black mothers and infants in Massachusetts in order to: (1) understand more fully the specific characteristics and needs of Black subgroups in Massachusetts, and (2) to improve the ability of MDPH to target culturally appropriate services. Having these data better equips public health professionals to provide health services to communities and to more efficiently use resources in working towards the ultimate goal of reducing health disparities.

This report provides descriptive statistics. It is not within the scope of this report to provide more complex analyses of birth outcomes among Black women and infants. As such, this report does not provide measures of statistical significance. Rather, this report presents important baseline data on perinatal health characteristics and outcomes of Black mothers and infants in Massachusetts for 1997-2000.

Advisory Task Force

A *Black Births Report Task Force* was formed, comprising representatives from the community of Black health service providers and researchers to provide advisory support to this project. Specifically, the Task Force provided guidance on which specific ancestry groups to include in order to provide the maximum amount of information to the intended audience of program planners, community advocates and policy makers. The Task Force recommended using the Perinatal Periods of Risk Model (see Glossary for details) developed by the Federal Centers for Disease Control and Prevention (CDC) to examine fetal-infant mortality. The Task Force also suggested presenting data for Boston neighborhoods since the majority of Black mothers lived in the city of Boston.

Assignment of an Infant's Race/Ethnicity

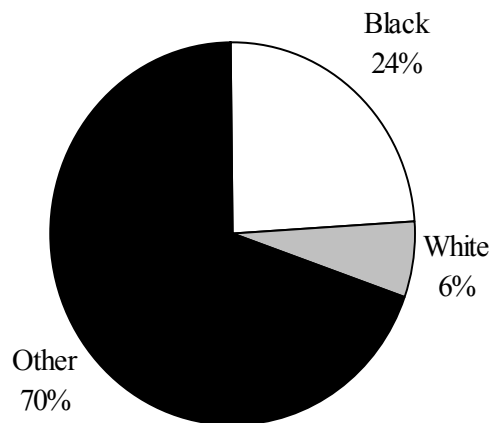
Prior to 1989, the race/ethnicity of an infant was assigned by combining information on the race/ethnicity of the mother and the race/ethnicity of the father. Since 1989, Massachusetts has followed the recommendation of the National Center for Health Statistics of classifying births according to the self-reported race/ethnicity of the mother. Therefore, beginning in 1989, the race/ethnicity of an infant is identical to the self-reported race/ethnicity of the infant's mother.

Notes on Hispanic and Cape Verdean Groups

Among Black mothers, only 397 births (1.7%) were to women who classified themselves as Hispanics. The largest Hispanic groups among Black mothers were Puerto Ricans (26%) and Dominicans (25%) followed by Other Central Americans (23%). All of these Hispanic groups had fewer than 200 births for the period between 1997-2000, and therefore did not meet the criteria for inclusion in this report. (Detailed information on births for all Hispanic subgroups is available in the report, *Hispanic Births in Massachusetts: 1996-1999*.)

As seen in Figure A.1, out of all mothers who identified their ethnicity as Cape Verdean, 70% identified their race as "Other" and only 24% identified their race as Black. It is important to note that only those Cape Verdean mothers who identified their race as Black were included in this report.

Figure A.1 Distribution of Cape Verdean Mothers by Race,
Massachusetts 1997-2000



Notes on Data Sources

All of the information on Massachusetts births contained in this report is based upon data extracted from the Massachusetts certificate of live birth. It is important to note that mothers select their own race and ethnicity on the birth certificate and that the infant's race and ethnicity are those of the mother. Chapter 7 of this report also contains data from Massachusetts infant birth certificates linked to death certificates (linked file), and from Massachusetts fetal death records. Information on race and ethnicity from the linked file is based on the birth certificate, and therefore is self-reported by the mother. The source of information on race and ethnicity from the fetal death record is variable, most often provided by parents or hospital admissions staff.

In the first chapter only, "Demographic Profile of Blacks in Massachusetts: 1980-2000", U.S. Census data are presented. A few limitations exist when using 2000 census data since inaccuracies in census counts, including for Blacks, are common. The net undercount is one measure of this inaccuracy. Two approaches are used to measure the undercount¹. One method uses birth and death records, immigration records and previous

¹ 1993 Research Conference on Undercounted Ethnic Populations. U.S. Bureau of the Census web page, <http://www.census.gov/dmd/www/pdf/understate.pdf>.

censuses to estimate the true population. This estimate is compared to the census count to measure the difference. The Census Bureau also conducts special surveys to measure the undercount. A scientific sample of census blocks is re-interviewed independently of the census enumeration. The results of these interviews are checked against the census records on an individual basis to see who was missed and who was counted in error. However, underlying the steady improvement in the national average undercount is a persistent differential undercount for Hispanic Americans, Native Americans, Blacks, and Asian and Pacific Islanders. These groups tend to be undercounted more than White non-Hispanics due to social and geographic factors such as homelessness, English proficiency, etc. The Census Bureau estimated the 1990 net undercount in Massachusetts to be 0.5% but there were significant differences among minority groups. It was estimated that the undercount of Blacks in Massachusetts was 6.3%, while Whites were overcounted by 0.1%. Information on the estimated 2000 net undercount in Massachusetts was not available when this report was released.

Chapter 1

Demographic Profile of Blacks in Massachusetts: 1980-2000

How many Blacks currently live in Massachusetts?

The answer to this question is less straightforward than it was in the pre-2000 Census counts. This was because, for the first time ever, the 2000 Census allowed respondents to indicate one or more races. As a result, 343,454 persons (5.4% of the total population in Massachusetts) indicated that they were “Black alone” and 398,479 persons (6.3%) indicated that they were “Black alone or in Combination.” The largest percentage of those who were Black in combination with one other race was “Black and Some Other Race” (47.7% of Blacks in two-race combinations). The second largest was “Black and White” (39.8%). The largest percentage of Blacks in three-way combinations was “Black, White and American Indian” (51.1%). (Figure 1.1).

In order to compare Census 2000 data to that of previous years, the Massachusetts Department of Public Health created the MDPH Population Estimate for 2000. Respondents who indicated “some other race alone” or “some other race in combination with other races”, and those who indicated that they were “two or more races” were reallocated to the MDPH traditional “major” race categories: White, Black, American Indian, and Asian and Pacific Islander.

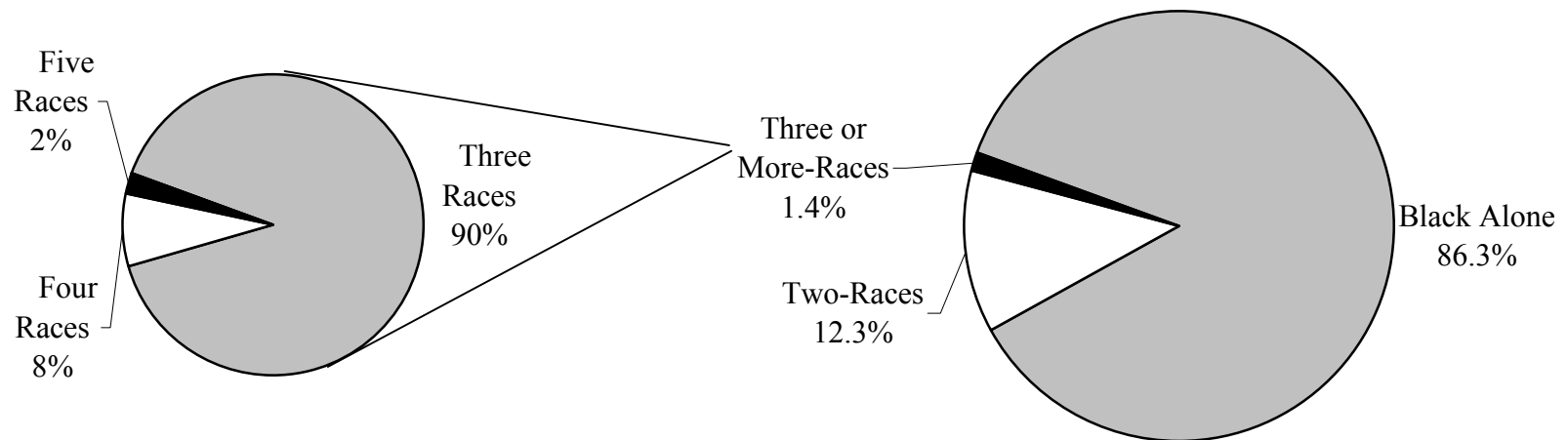
According to the 2000 MDPH estimates, the number of Blacks in Massachusetts is 393,283 (6.2%). This includes persons who selected more than one race or some other race. This is the number that is used by MDPH as a denominator to calculate rates; for example, the Black birth rate is calculated by dividing the number of Births to Black mothers by the Black population (393,283).

The percentage of “Black alone” in the United States is more than twice that of Massachusetts (12.3% v. 5.3%), as was the percentage of “Black alone or in combination” (12.9% v. 6.3%). However, Massachusetts had a greater percentage of those who indicated that they were Black in combination with other races (1.0% v. 0.6%).

What is the Hispanic Distribution of Blacks in Massachusetts?

Among “Black alone” persons in the 2000 Census, 92.7% were not Hispanic (343,454), and 7.3% were (25,125). In the MDPH 2000 Population Estimate, 14.4% (56,729) of the Black population was Hispanic. There were 336,554 (86.6%) who were not Hispanic. This means that 21,604 (9.4%) of the 193,138 persons of “some other race” and 35,667 persons of “two or more races” who were Hispanic were reallocated to the category of Hispanic Blacks. The distribution of Hispanic Black varied by community (Table A1.1).

Figure 1.1 Distribution of Black Population
Massachusetts: 2000



Black Alone	343,454
Two-Races	48,952
Three or More-Races	6,073
Three Races	5,446
Four Races	492
Five Races	128
Six Races	7
Total Blacks	398,479

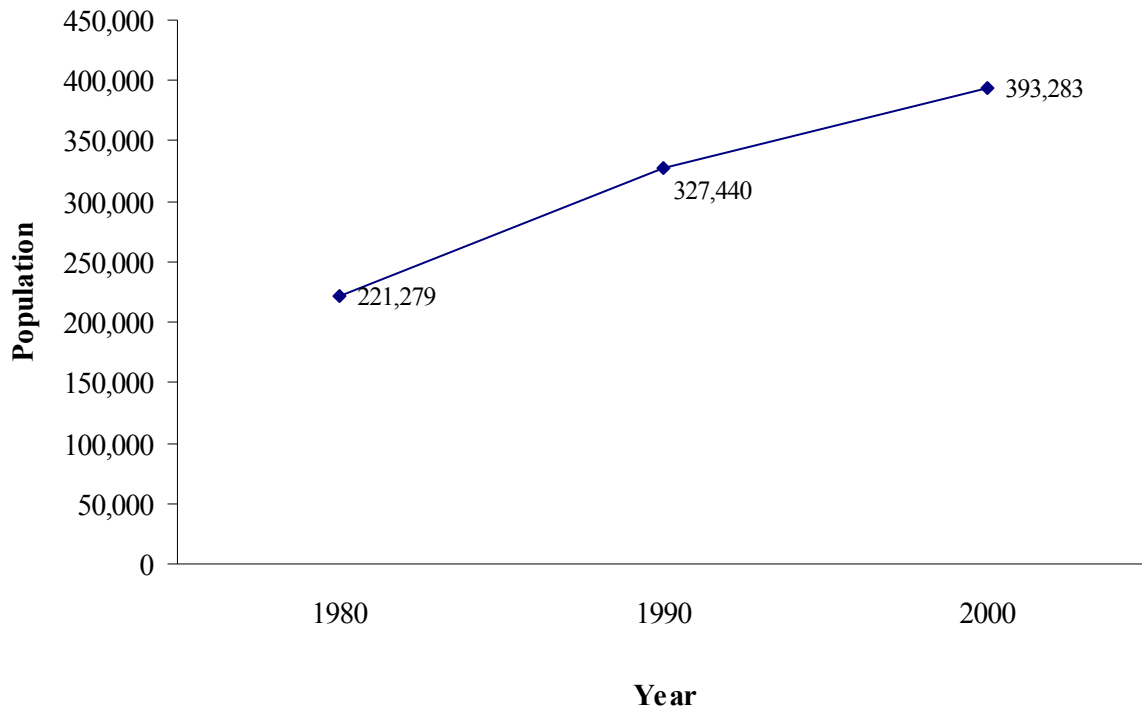
Source: US Census Bureau: Census 2000, Summary File 1.

NOTE: Multiple race categories include Black with other races. For example, Two-Races includes Black in combination with one other race.

How has the Black population changed from 1980 to 2000?

The total Black population² in Massachusetts increased 32.4% from 1980 to 1990, from 221,279 to 327,440. Between 1990 and 2000, the Black population increased by 20.1%, reaching 393,283 residents. The percentage of Blacks of the total Massachusetts population changed from 3.9% in 1980 to 5.4% in 1990, and continued to increase to 6.2% in 2000 (Figure 1.2).

Figure 1.2 Growth in the Black Population
Massachusetts: 1980-2000



Source: US Census Bureau: Census 2000
1980 STF 1
1990 STF1
2000 MDPH Population Estimates

² The Black population is from the MDPH 2000 Population estimate.

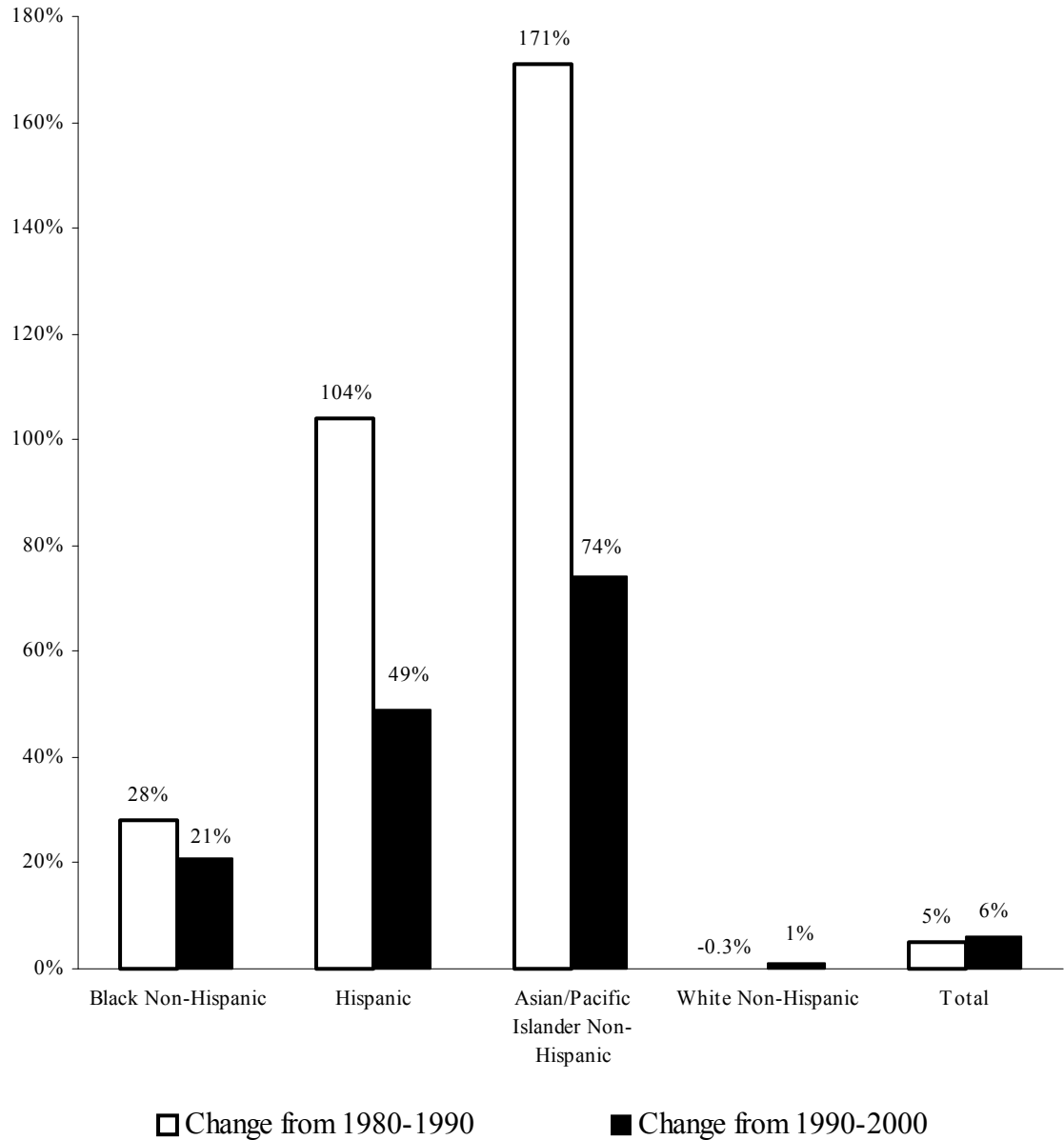
What was the level of growth in the Black, non-Hispanic population between 1980 and 2000, compared with the other major race groups in Massachusetts?

The Black non-Hispanic population has grown much more than the White non-Hispanic population, but not as much as the Hispanic or Asian/Pacific Islander, non-Hispanic populations. From 1980 to 1990, overall population growth in Massachusetts was 5%, the White, non-Hispanic population actually decreased slightly by less than one percent, and the Black, non-Hispanic population grew by 28%. In comparison, the Hispanic population growth was 104%, and the Asian/Pacific Islander, non-Hispanic population grew the fastest at 171% during the 1980's (Figure 1.3).

From 1990 to 2000, the total population growth in Massachusetts was 6%, slightly higher than in the previous decade (5%). As in the previous decade, the second smallest increase was observed among Black non-Hispanics, with a 21% growth. White non-Hispanics had the slowest growth at about 1%. The Hispanic population grew by 49%, and Asian/Pacific Islanders experienced the largest population increase, 74% (Figure 1.3).

**Figure 1.3 Percentage Population Change by Race
and Hispanic Ethnicity**

Massachusetts: 1980-1990 and 1990-2000



Source: 1980 and 1990 US Census Bureau and 2000 MDPH Population Estimates.

Note: Hispanic ethnicity was not determined for Asian and Pacific Islanders in 1980; therefore, the percentage change from 1980 to 1990 may be inflated.

Where do Blacks primarily reside?

Boston had the largest Black population in Massachusetts in 2000, 168,318, followed by Springfield, Brockton, Worcester, and Cambridge. In 2000, twenty-one communities in Massachusetts had 2,000 or more Black residents (Table A1.2). Among these communities, Boston had the largest concentration of Blacks, 28.6% of all Boston residents. Eight Massachusetts communities had Black populations totaling greater than 10% of their population: Boston, 28.6%; Springfield, 24.6%; Brockton, 22.4%; Randolph, 22.3%; Lynn, 13.2%; Cambridge, 12.9%; Lawrence, 11.6%; and Milton, 10.6% (Table A1.3).

From 1990 to 2000, the growth in the Massachusetts Black population varied substantially from community to community (Table A1.4). In 1990 there were 16 towns or cities that had Black populations greater than 2,000 persons. In 2000, twenty-one towns or cities had over 2,000 Black residents.

Randolph (177.7%) experienced the greatest growth among towns that had greater than 2,000 Blacks. The five towns whose Black population reached 2,000 in 2000, and their respective growth percentages were: Fall River (158.7%), Milton (124.9%), Everett (123.4%), Quincy (115.7%), and Waltham (49.0%).

Some of the towns that experienced substantial declines in Black population from 1990 to 2000 were Harvard (-82.3%), Bedford (-39.4%), Ayer (-36.2%), and Lawrence (-14.6%). The decline in the Black population in Harvard, Ayer, and perhaps Bedford, may be due to the closing of Fort Devens in March 1996.

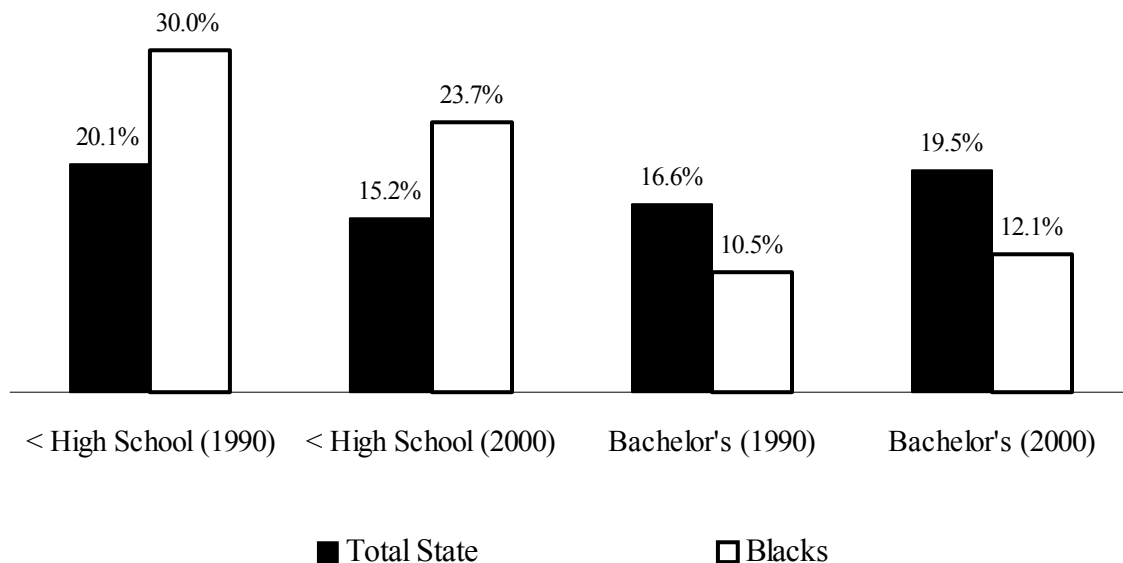
What is the age distribution of Blacks in Massachusetts?

In 2000, the Black population in Massachusetts was younger than the total state population. Approximately 60% of the Black population was younger than age 35, while only 47.4% of the state population as a whole was less than 35 years of age. Median age for Blacks alone was 29.7 years compared to 36.5 years for the state as a whole. In 1990, 65.1% of the Black population was younger than age 35 compared to 53% for the state as a whole (Table A1.5).

How does the education level of the Black population in Massachusetts in 1990 compare with that of the state as a whole?

Patterns of educational attainment differ for Blacks compared with the Massachusetts population as a whole. In Massachusetts in 1990, 30.0% of the Black population 25 years and older had less than a high school education compared to 20.1% of the state population. Approximately 10.5% of Blacks had bachelors degrees compared to 16.6% of the state population. By 2000, 23.7% of the Black population had less than a high school diploma compared to 15.2% of the state population. Only 12.1% of the Blacks in Massachusetts had bachelor's degrees compared to 19.5% of the state population (Figure 1.4).

**Figure 1.4 Educational Attainment of Blacks,
Ages 25 Years and Above
Massachusetts: 1990 and 2000**



Source: U.S. Bureau of the Census, 2000 STF3 Sample Data.

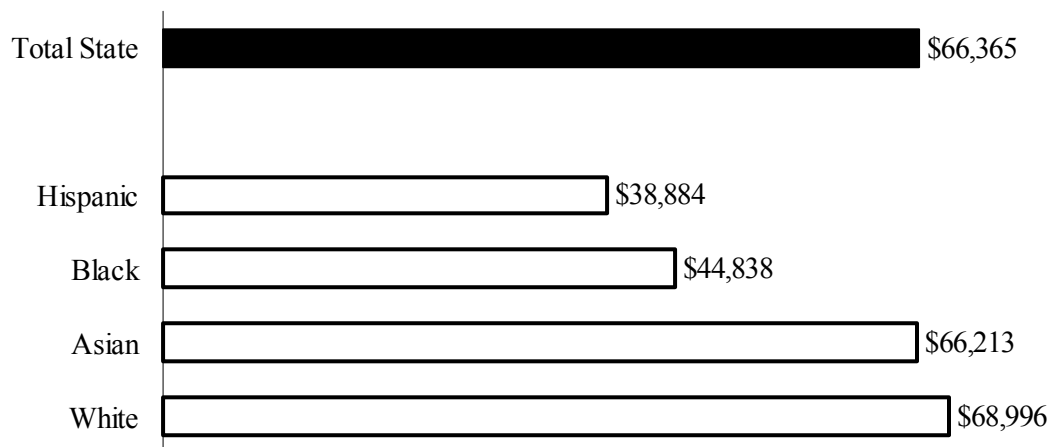
How does the socioeconomic level of Blacks in Massachusetts in 1989 and 1999 compare with the statewide level?

The mean household income for Blacks in 1989 (\$31,360) was 31% below the state mean household income (\$45,472). In 1999, mean household income levels rose for both Blacks (\$44,838) and all state residents (\$66,365), but the disparity in household income remained the same – the mean household income for Blacks was 32% below the statewide mean household income (Fig. 1.5).

A much higher proportion of Blacks also lived below the poverty level as compared to Massachusetts as a whole (23.0% v. 8.9%). Between 1989 and 1999, the average annual Black income rose at almost the same rate as the state as a whole (143.0% vs. 146%, respectively). Although the percent of Black persons who were below poverty in 1999 is more than two and one-half times that of the state population as a whole, the decrease in the percent of persons below poverty from 23.0% to 21.2% was counter to the trend in the total state change in persons below poverty, which increased from 8.3% to 8.9% (data not shown).

Also, Blacks were more than twice as likely to be unemployed (12.8%) in 1989 than was the state population as a whole (6.7%). In 1999 Blacks were also more than twice as likely to be unemployed (10.5%) than was the state population as a whole (4.8%) (data not shown).

Figure 1.5 Mean Household Income by Race
Massachusetts: 1999



Source: U.S. Bureau of the Census, 2000 STF3 Sample Data.

Chapter 2

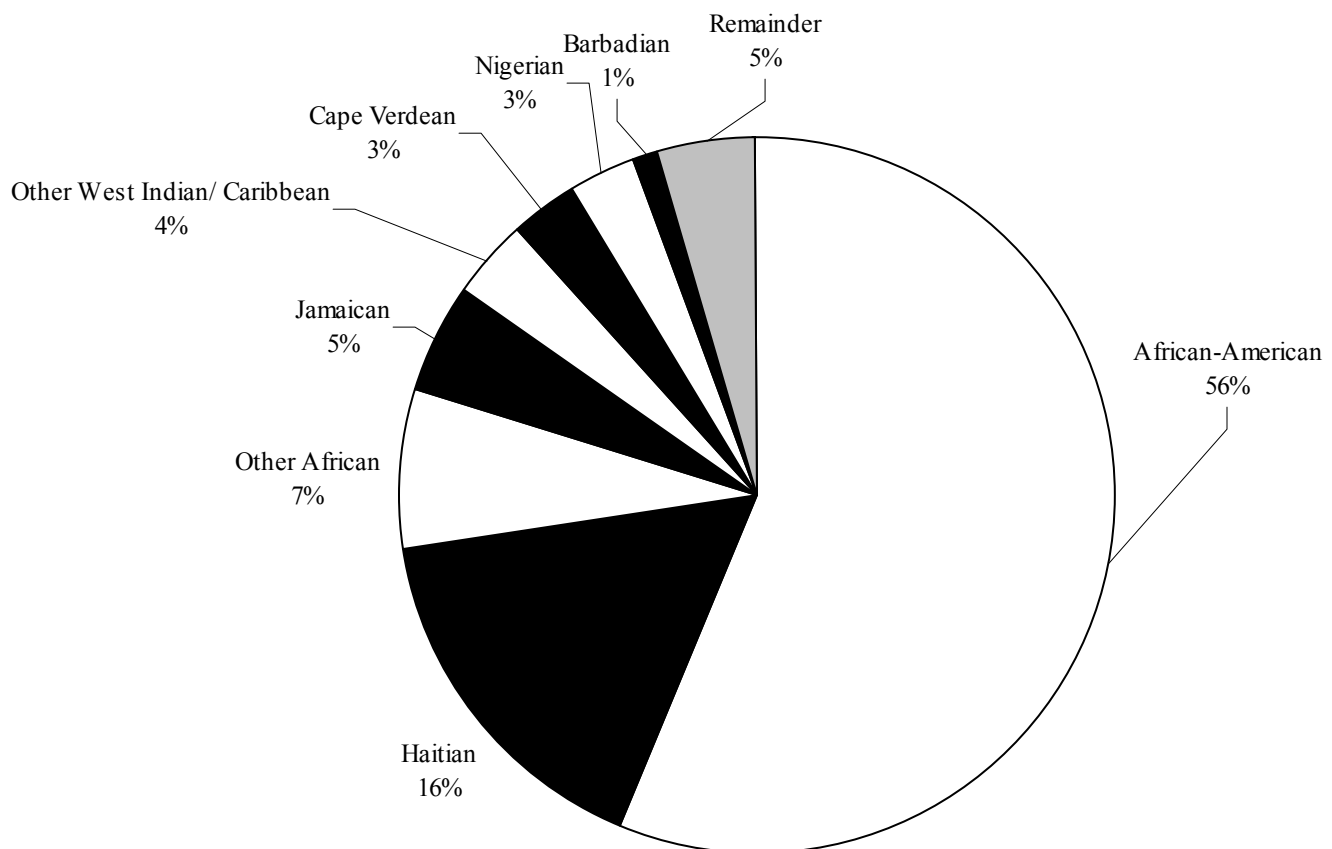
Recent Trends in Births to Black Mothers in Massachusetts: 1997-2000

From 1997 through 2000, how were births among Black women in Massachusetts distributed by ethnicity?

The majority of births to Black mothers occurred among African American women (56%), Haitian women (16%), and women who self-identified as “Other African” ancestry (7%). The other 20% of births to Black mothers occurring in Massachusetts were to mothers who identified their ethnicity as Jamaican (5%), “Other West Indian/ Caribbean” (4%), Cape Verdean (3%), Nigerian (3%), Barbadian (1%), and some other ethnicity (Remainder, 5%). The remaining 5% of births to Black mothers were distributed among 29 different ethnicity categories, none of which exceeded 1% of the total. Births to Black mothers of Hispanic ethnicity (from 9 separate groups) made up 1.7% of the total.

Figure 2.1 Percentage of Black Births by Ethnicity

Massachusetts: 1997-2000



Total Number of Black Births = 23,027

Note: Figures in graph may not add up to figures referenced in text due to rounding.

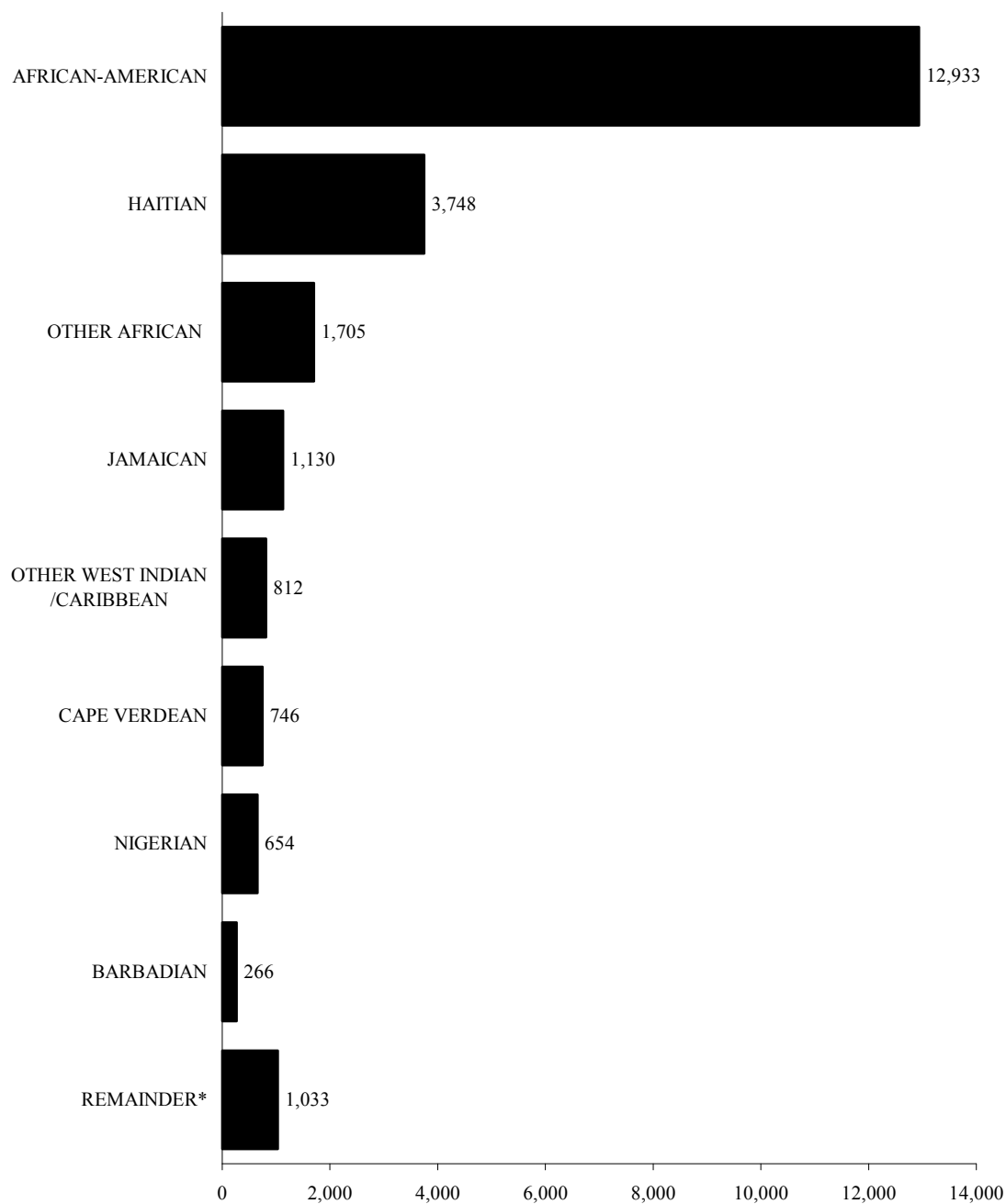
Source: Massachusetts Department of Public Health, Bureau of Health Statistics, Research, and Evaluation (BHSR&E) (See Appendix Table A2.1)

From 1997 through 2000, how many births to Black mothers were there in Massachusetts?

From 1997 through 2000, there were 23,027 births among Black women who were residents of Massachusetts, accounting for 7.1% of all births in the state during this time period. African American women accounted for almost half (12,933) of births to Black mothers during this time period, while Haitian women gave birth to 3,748 children. Women classified as “Other African” and Jamaican gave birth to 1,705 and 1,130 children, respectively. Lower numbers of births were recorded for women classified as “Other West Indian/Caribbean” (812), Cape Verdean (746), Nigerian (654), and Barbadian (266) (Figure 2.2).

[The remainder of births to Black mothers (5%) were distributed among 29 separate ethnicity groups, as follows: Puerto Rican (102); Dominican (100); Mexican (4); Cuban (13); Colombian (1); Salvadoran (4); Other Central American (90); Other South American (59); Other Hispanic/Latina (24); Chinese (7); Vietnamese (6); Cambodian (12); Asian Indian (5); Korean (3); Filipino (7); Japanese (3); Laotian (1); Pakistani (4); Thai (4); Hawaiian (4); Other Asian/Pacific Islander (22); Brazilian (36); Other Portuguese (29); Lebanese (4); Iranian (1); Other Middle Eastern (18); Native American/American Indian (59); European (121); Other (179). Not shown in figure.]

**Figure 2.2 Number of Black Births by Ethnicity
Massachusetts 1997-2000**



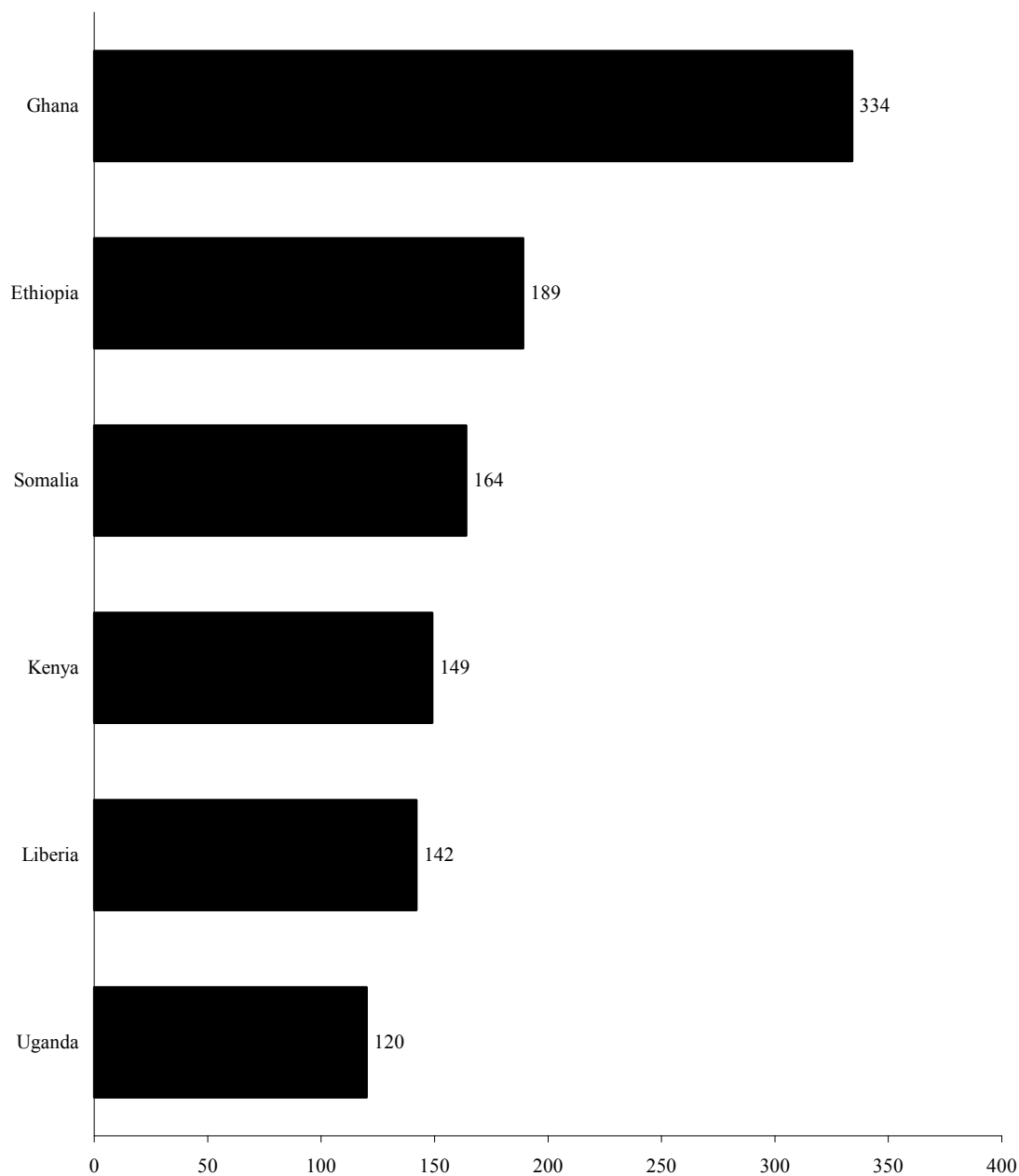
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A2.1).

*For these births, mothers selected one of 29 other ethnicity categories or did not provide information on ethnicity. See text of previous page for more detailed information.

How were births among women classified as “Other African” distributed by mother’s birthplace?

From 1997 through 2000, mothers living in Massachusetts who identified their ethnicity as “Other African” and their birthplace as Ghana gave birth to 334 children. The numbers of births to “Other African” mothers born in other countries was as follows: Ethiopia (189), Somalia (164), Kenya (149), Liberia (142), and Uganda (120) (Figure 2.3).

**Figure 2.3 Number of "Other African" Births by
Mother's Birthplace
Massachusetts 1997-2000**



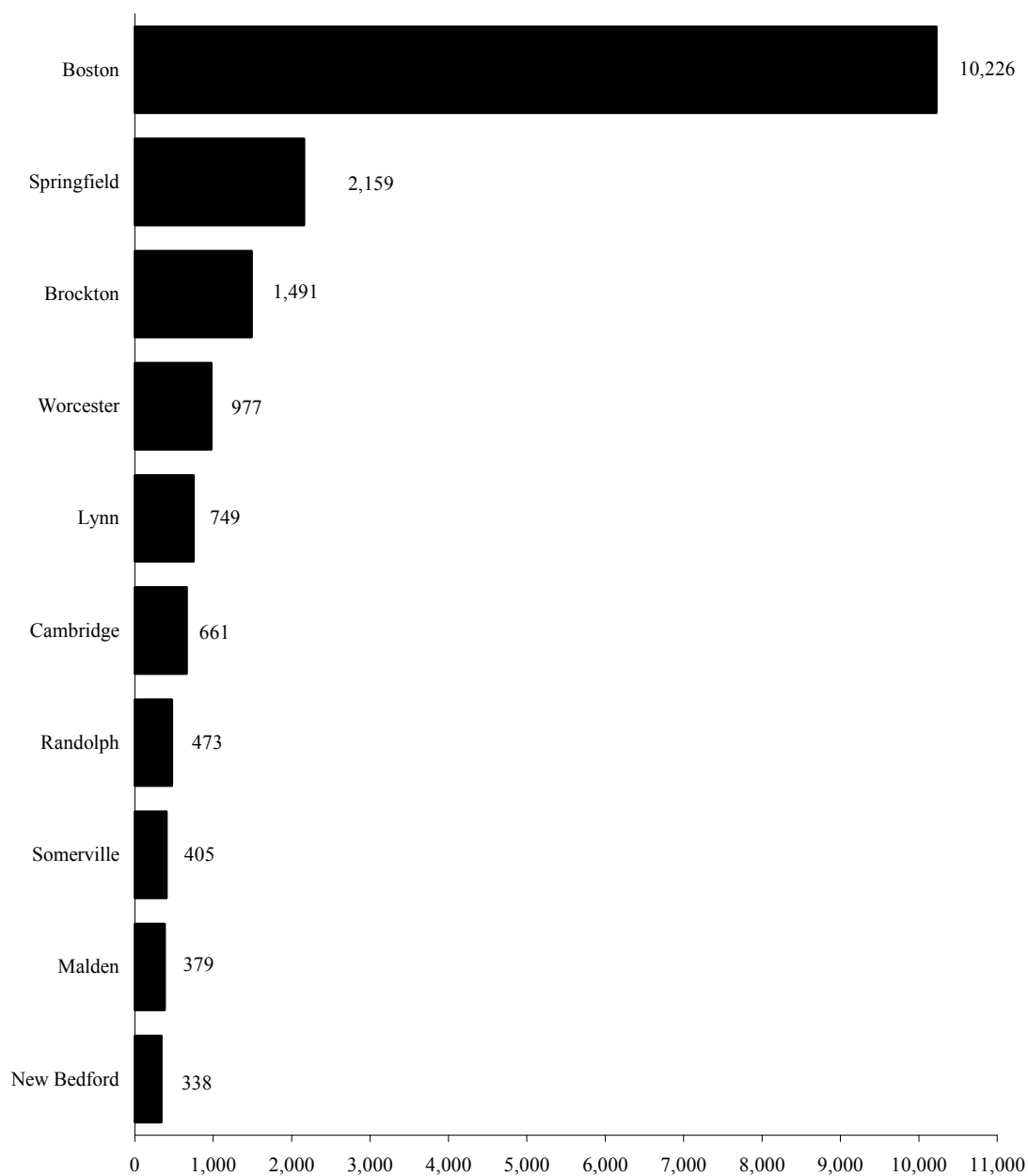
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A3.3).

Note: Includes birthplaces with 100 or more births during 1997-2000.

In Massachusetts, where did Black mothers live?

The largest number of Black mothers lived in Boston (10,226) followed by Springfield (2,159), Brockton (1,491), Worcester (977), and Lynn (749) (Figure 2.4). African Americans constituted the highest percentage of Black mothers residing in Springfield, Boston, Lynn, and Brockton. In Somerville and Malden, Haitian women represented the largest percentage of Black mothers. For the purpose of Figures 2.5-2.7, all other Black mothers are aggregated in an “Other Black” category. In New Bedford, 43% of Black mothers were African American, 1% were Haitian, and 55% were of other ethnicity groups. The distribution of ethnicity groups among Black mothers living in Worcester was about half African American and half “Other Black.” (Figure 2.5).

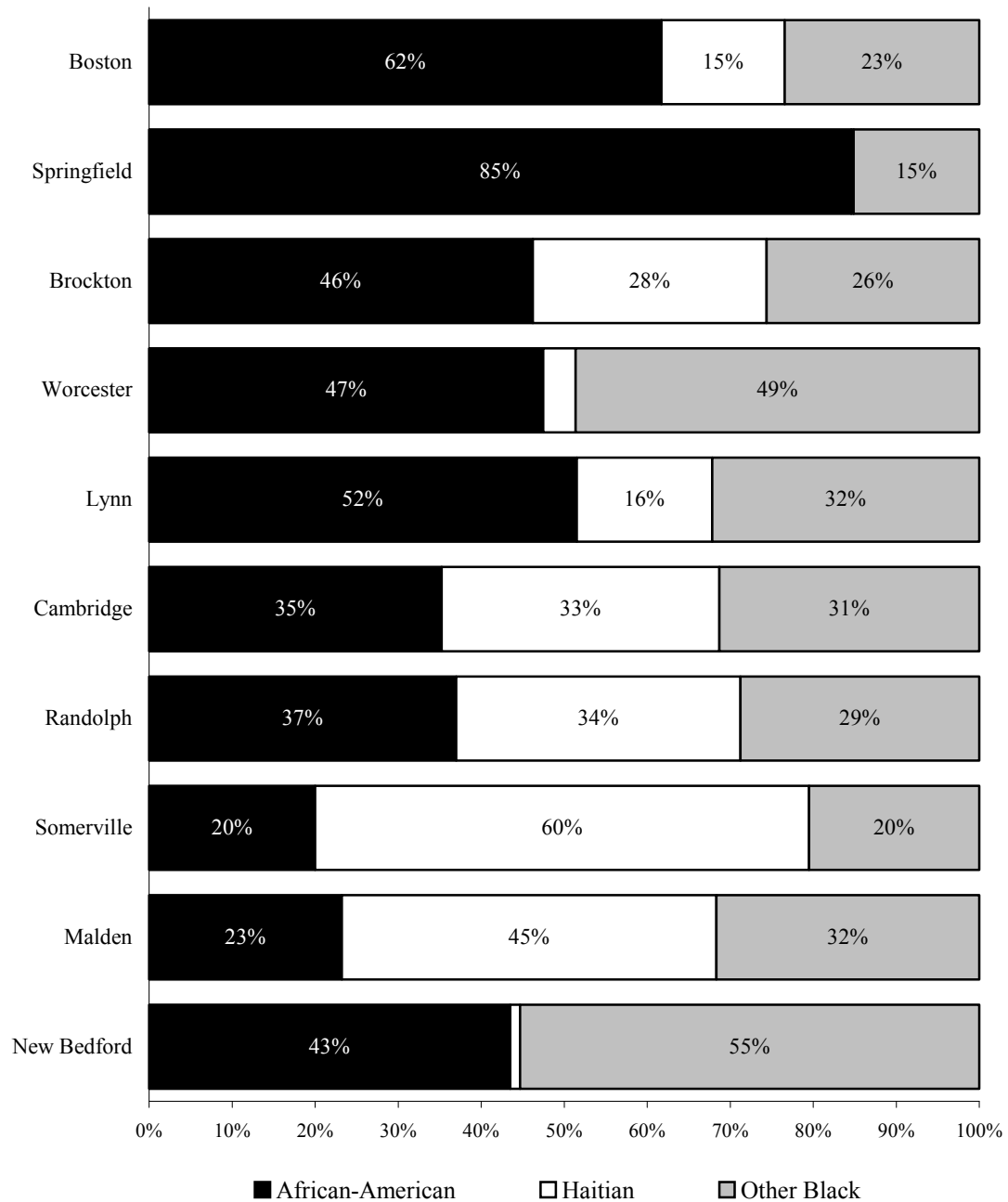
**Figure 2.4 Number of Black Births in
Selected Communities
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A2.1)

Note: Ten cities and towns with the largest numbers of Black births from 1997-2000.

**Figure 2.5 Percentage of Black Births in Selected Communities by Ethnicity
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A2.1)

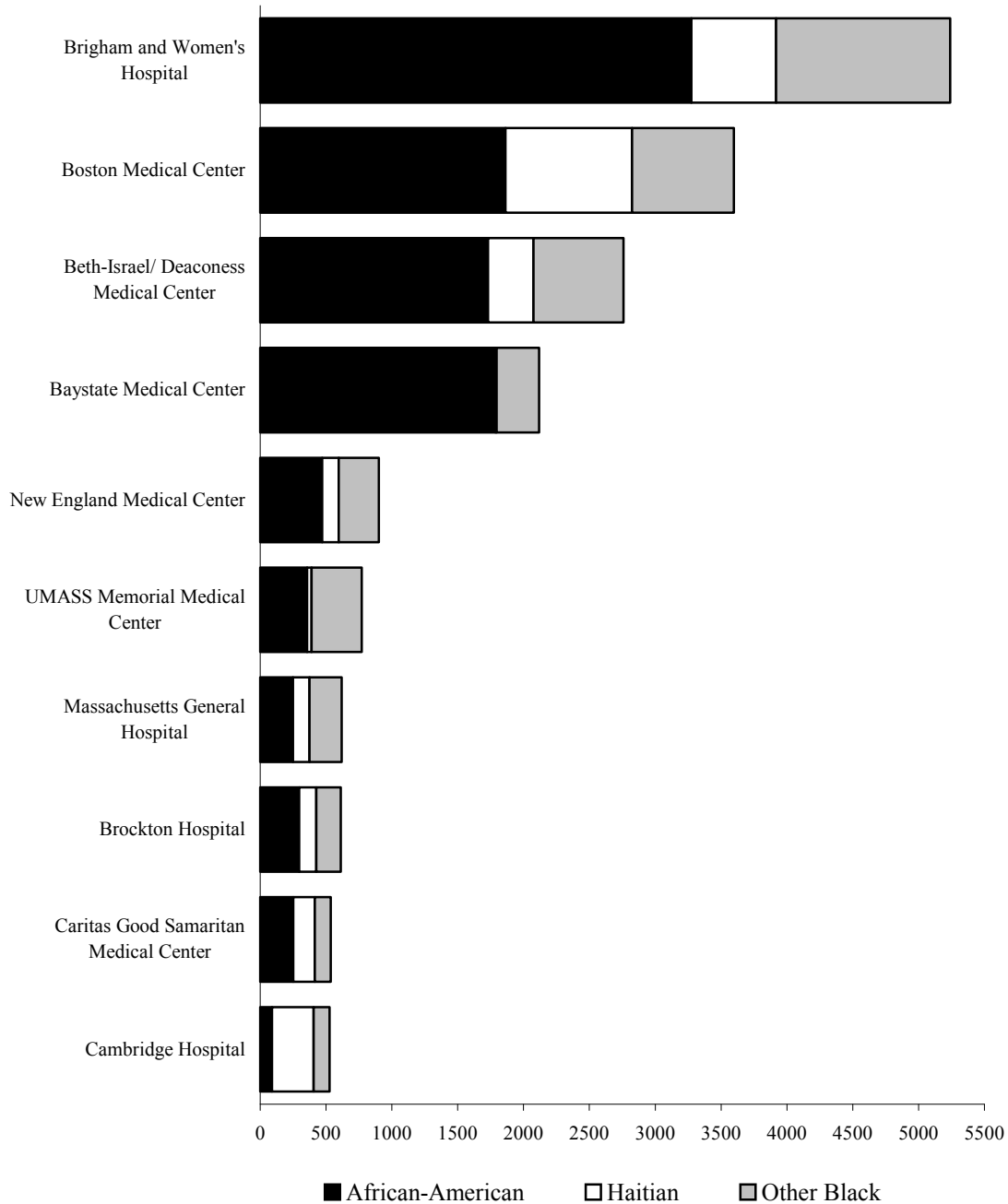
Note: Ten cities and towns with the largest numbers of Black births from 1997-2000.

From 1997 through 2000, in which hospitals did Black mothers deliver their infants?

During 1997 through 2000, Black mothers were most likely to deliver their infants at Brigham and Women's Hospital (5,241), Boston Medical Center (3,597), Beth Israel/ Deaconess Medical Center (2,760), and Baystate Medical Center (2,118) (Figure 2.6). Sixty percent of all births to Black residents in Massachusetts occurred at these four hospitals.

At Brigham and Women's Hospital, Boston Medical Center, and Beth Israel/ Deaconess Medical Center, over half of Black mothers were of African American ethnicity, and one of four Black mothers giving birth at Boston Medical Center was Haitian. Over 80% of Black mothers giving birth at Baystate Medical Center were African American. Six out of ten Black mothers giving birth at Cambridge Hospital identified themselves as Haitian (Figure 2.6).

**Figure 2.6 Number of Black Births in Selected Hospitals by Ethnicity
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A2.2)

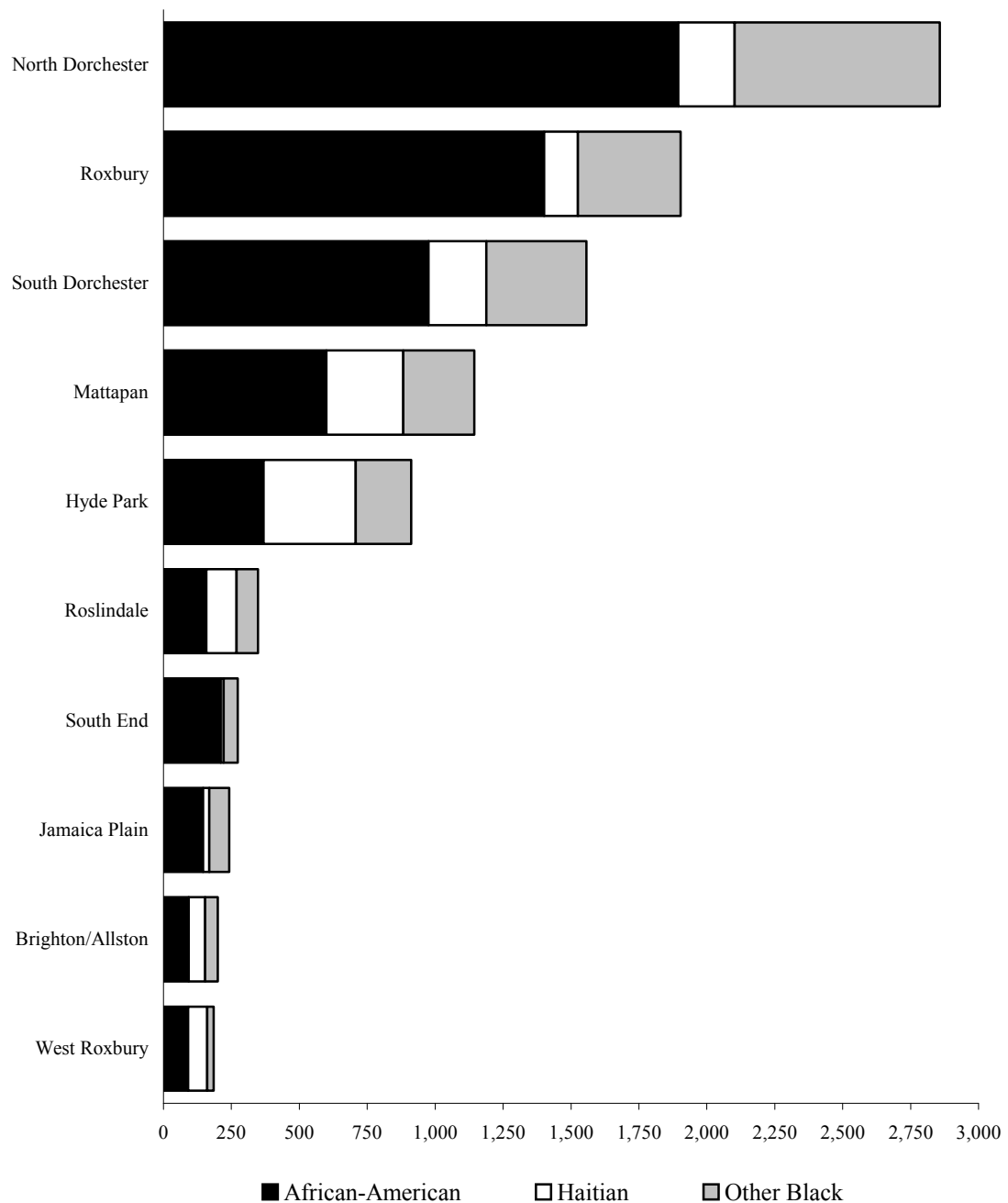
Note: Ten hospitals with the largest numbers of Black births from 1997-2000.

From 1997 through 2000, in which Boston neighborhoods³ did Black mothers reside?

The largest numbers of Black mothers lived in North Dorchester (2,857), Roxbury (1,903), South Dorchester (1,557), Mattapan (1,144) and Hyde Park (912). African American and Haitian mothers represented the largest segments of the Black maternal population in these neighborhoods. African Americans were the predominant ethnicity group in North Dorchester (1,895), Roxbury (1,401), South Dorchester (976), and Mattapan (600). The largest numbers of Haitian mothers lived in Hyde Park (340) and Mattapan (283). The largest number of Cape Verdean mothers lived in North Dorchester (186), while the largest number of mothers classified as “Other African” lived in Roxbury (124). Nigerian mothers most commonly resided in Roxbury (69) and Hyde Park (40). Among Jamaican mothers living in Boston, 70% lived in one of 3 neighborhoods: North Dorchester (157), South Dorchester (126), and Mattapan (106) (Figure 2.7).

³ See Technical Notes for definition of Boston neighborhoods.

**Figure 2.7 Number of Black Births in Selected
Boston Neighborhoods by Ethnicity
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A2.3)

Note: Ten neighborhoods with the largest numbers of Black births from 1997-2000.

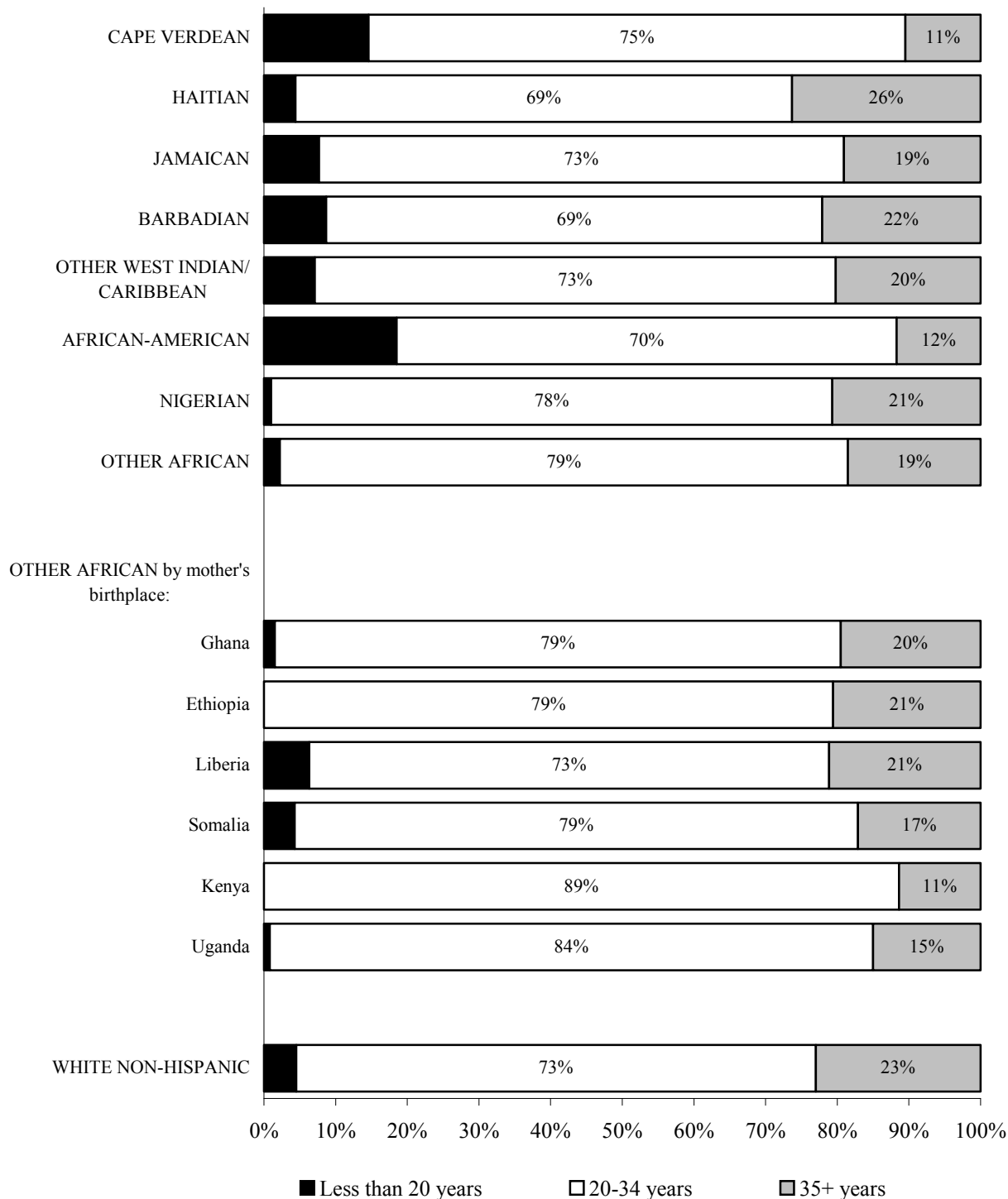
Chapter 3

Demographic Characteristics of Black Mothers: 1997-2000

How old were Black mothers?

Black mothers were on average younger than White non-Hispanic mothers. The percentage of mothers who were under 20 years of age at the time they delivered their children was highest for African American (19%), and Cape Verdean (15%) women. Among other groups of Black women the percentage of young mothers ranged from 1% for Nigerian women to 9% for Barbadian mothers, compared to 5% for White non-Hispanic mothers. Among women classified as “Other African” only those born in Liberia showed any appreciable number of young mothers (5%) (Figure 3.1).

**Figure 3.1 Age Distribution of Black and White non-Hispanic Mothers by Ethnicity and Place of Birth
Massachusetts 1997-2000**



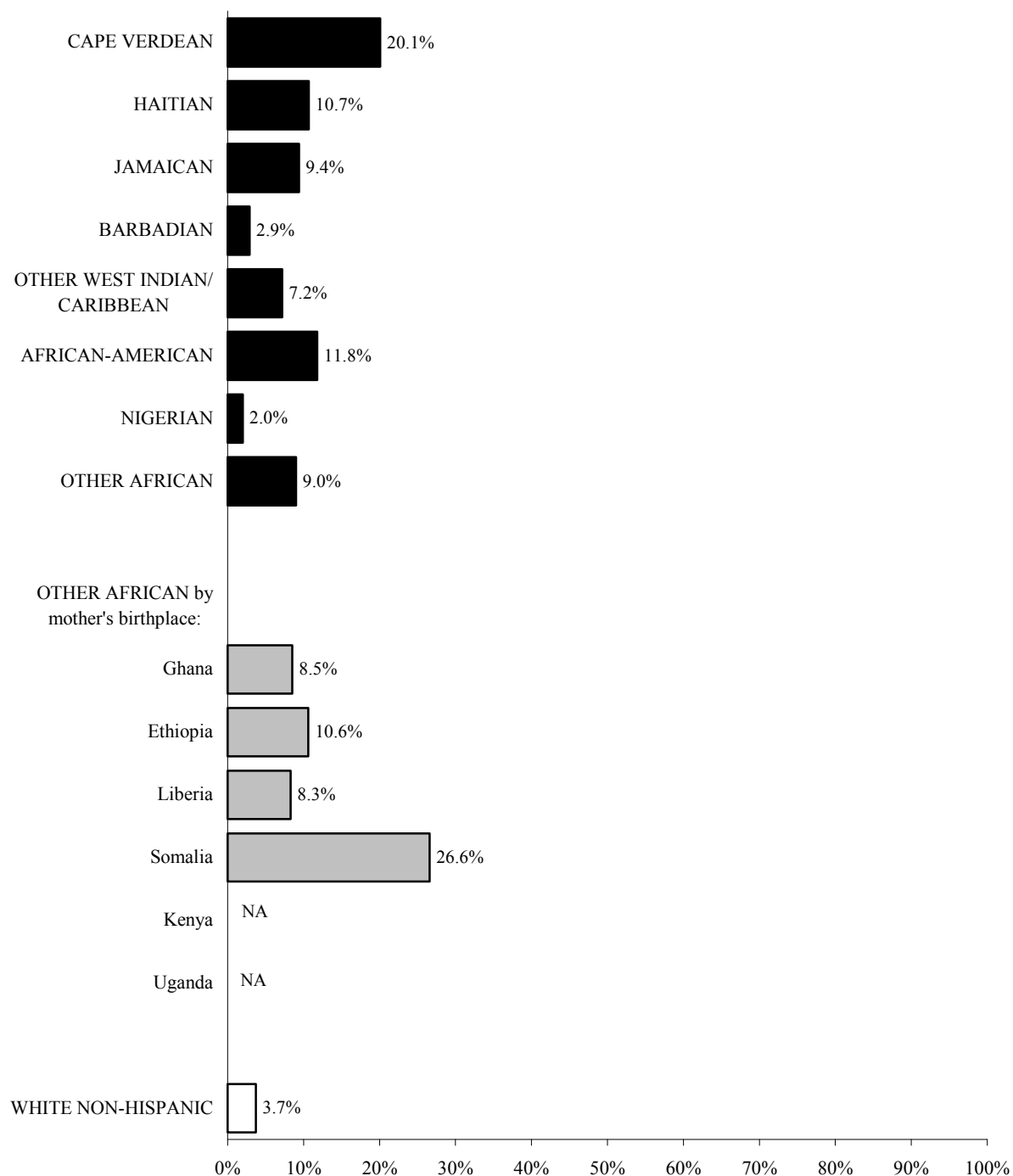
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3)

Were there differences in educational attainment among Black mothers?

Among Black mothers ages 20 and above, Cape Verdean and African American women showed the lowest levels of educational attainment and Nigerians the highest. Approximately 20% of Cape Verdean women and 12% of African American women reported having completed less than 12 years of formal education compared to 4% among White non-Hispanic mothers. Among other Black women, the percent of women with less than 12 years of schooling ranged from 2% among Nigerian women to 11% for Haitian mothers (Figure 3.2). A breakdown of mothers classified as “Other African” by place of birth showed lowest educational attainment among women born in Somalia (27%), and moderate rates among those born in Ethiopia (11%), Ghana (9%), and Liberia (8%). The percent of mothers who reported having completed less than 12 years of education was lowest among women born in Uganda and Kenya (both less than 1%) (Figure 3.2).

The percent of mothers who were college graduates was also lowest among Cape Verdean (12%) and African American (15%) mothers and highest among Nigerian women (46%) (Figure 3.3). The percent of college graduates ranged from 14% among Haitian mothers, to 22% among Barbadian mothers. For “Other African” mothers, the percent of mothers with college education was relatively high among women born in Uganda (30%), and low among mothers born in Somalia (10%) (Figure 3.3).

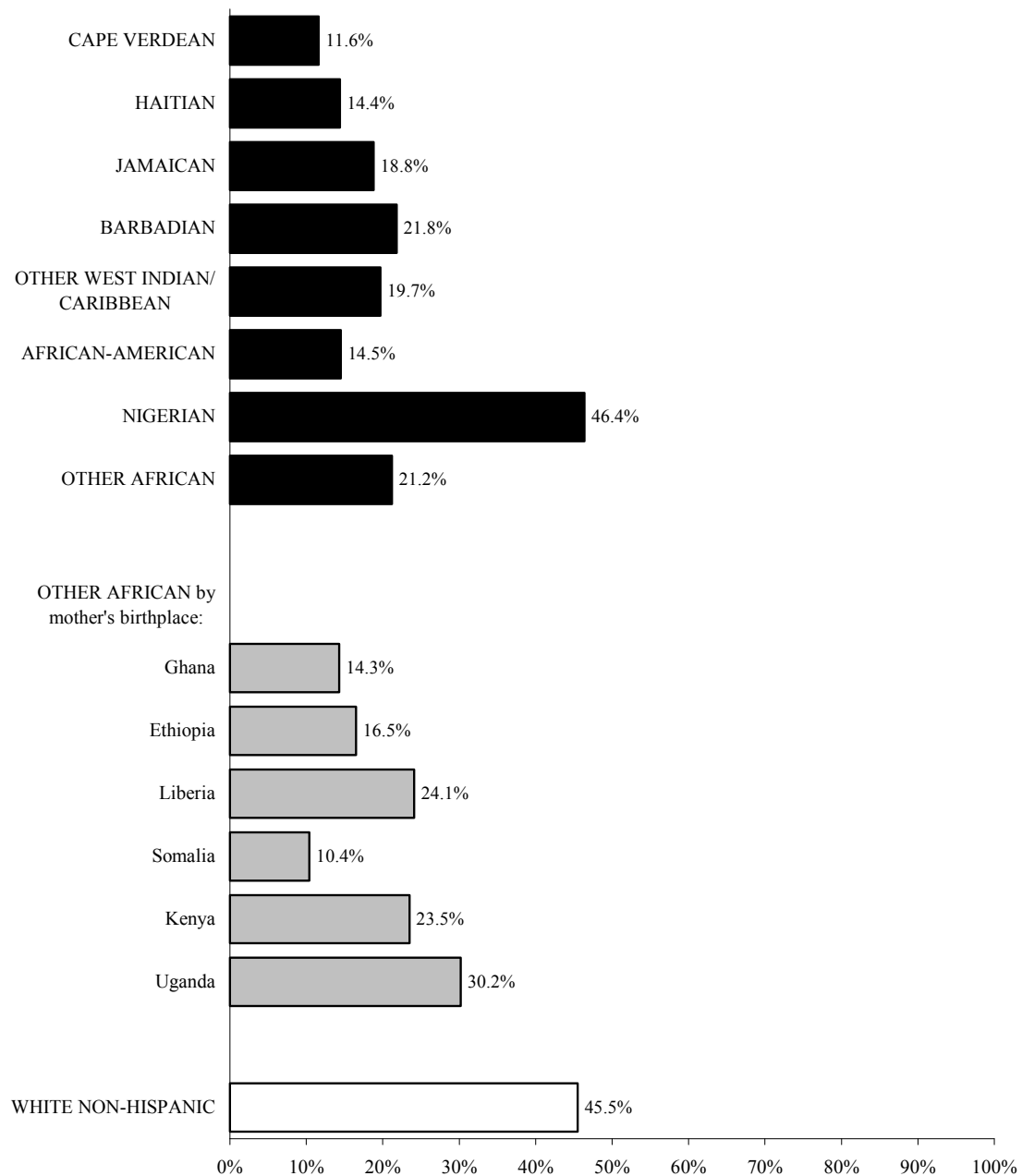
Figure 3.2 Percentage of Black and White non-Hispanic Mothers with Less than a 12th Grade Education, by Ethnicity and Place of Birth, Ages 20 Years and Above Massachusetts 1997-2000



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3).

NA: Percentages based on fewer than 5 events are excluded.

**Figure 3.3 Percentage of College Graduates* Among
Black and White non-Hispanic Mothers, by Ethnicity and
Place of Birth, Ages 20 Years and Above
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3).

* Mother completed 4 years of College and/ or obtained a bachelor's degree, based on information from birth certificate.

From 1997 through 2000, what proportion of Black mothers were not married?

African American (73%), Cape Verdean (61%) and Jamaican (56%) mothers were more likely to report not being married compared to White non-Hispanic women (18%). Among the other Black groups, the percentage of mothers who were not married ranged from 17% among Nigerian women to 50% for women classified as “Other West Indian/ Caribbean”. Further analysis of women classified as “Other African” according to place of birth showed that the percent of mothers who reported not being married was highest among women born in Kenya (47%), Liberia (47%), Uganda (42%), and Ghana (31%). The percentage of mothers born in Ethiopia (15.3%) and Somalia (18%) who were not married was close to that observed for White non-Hispanic mothers (Figure 3.4).

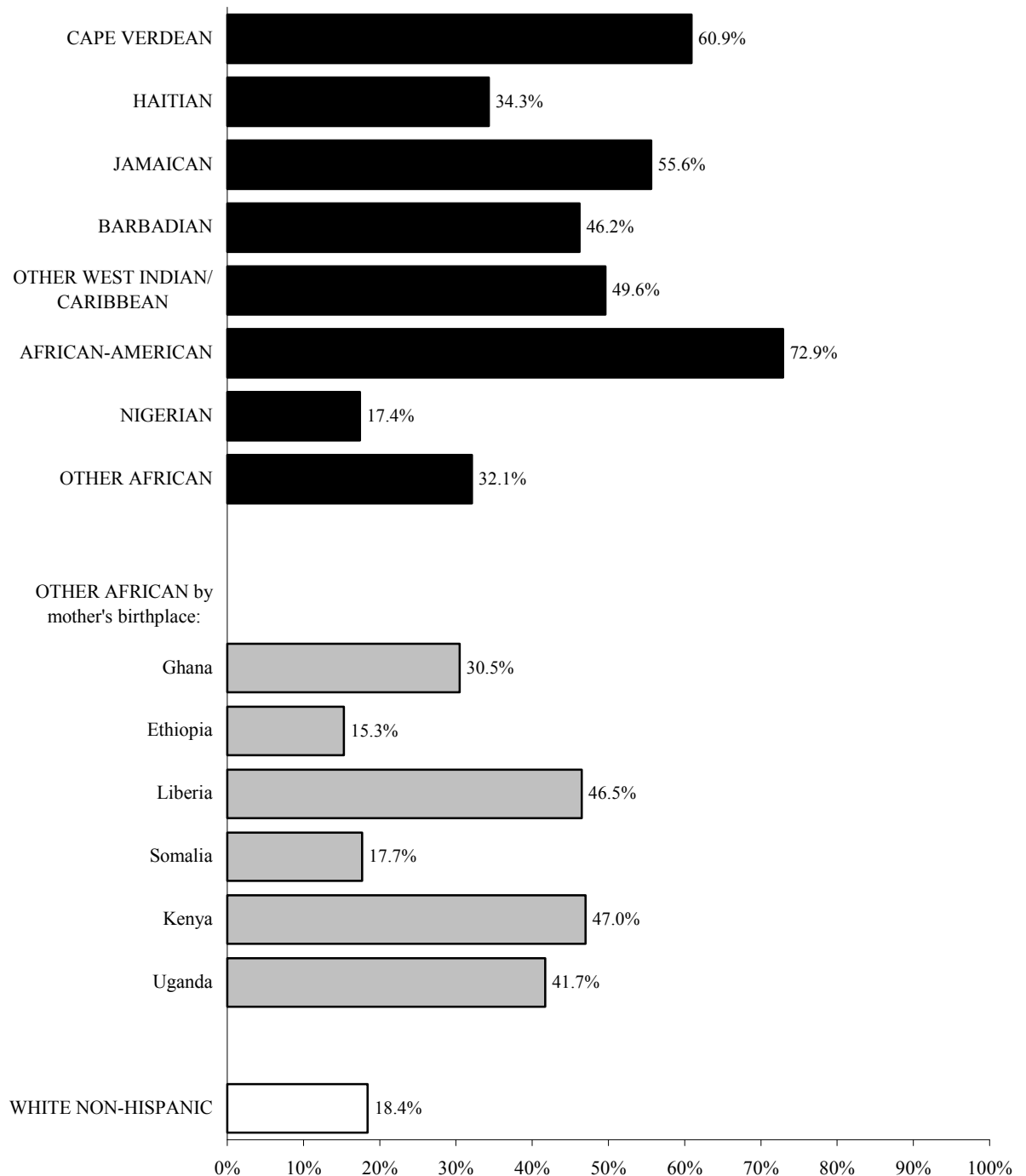
From 1997 through 2000, what proportion of Black mothers preferred to communicate in a language other than English?

The percent of Black women who preferred to converse in a language other than English showed wide variation across the various Black groups. Haitians (43%), Cape Verdeans (25%), “Other Africans” (21%), and Nigerians (8%) were most likely to prefer their native language to English. Less than 1% of African American, Jamaican, and “Other West Indian/ Caribbean” mothers preferred to communicate in a language other than English. Among women classified as “Other African”, a high percentage of mothers born in Somalia (56%), and Ethiopia (49%) favored use of a language other than English. A low percentage of mothers born in Uganda (10%), Kenya (4%), Ghana (3%), and Liberia (less than 1%) favored a language other than English (Figure 3.5).

From 1997 through 2000, what proportion of Black mothers were non-U.S. born?

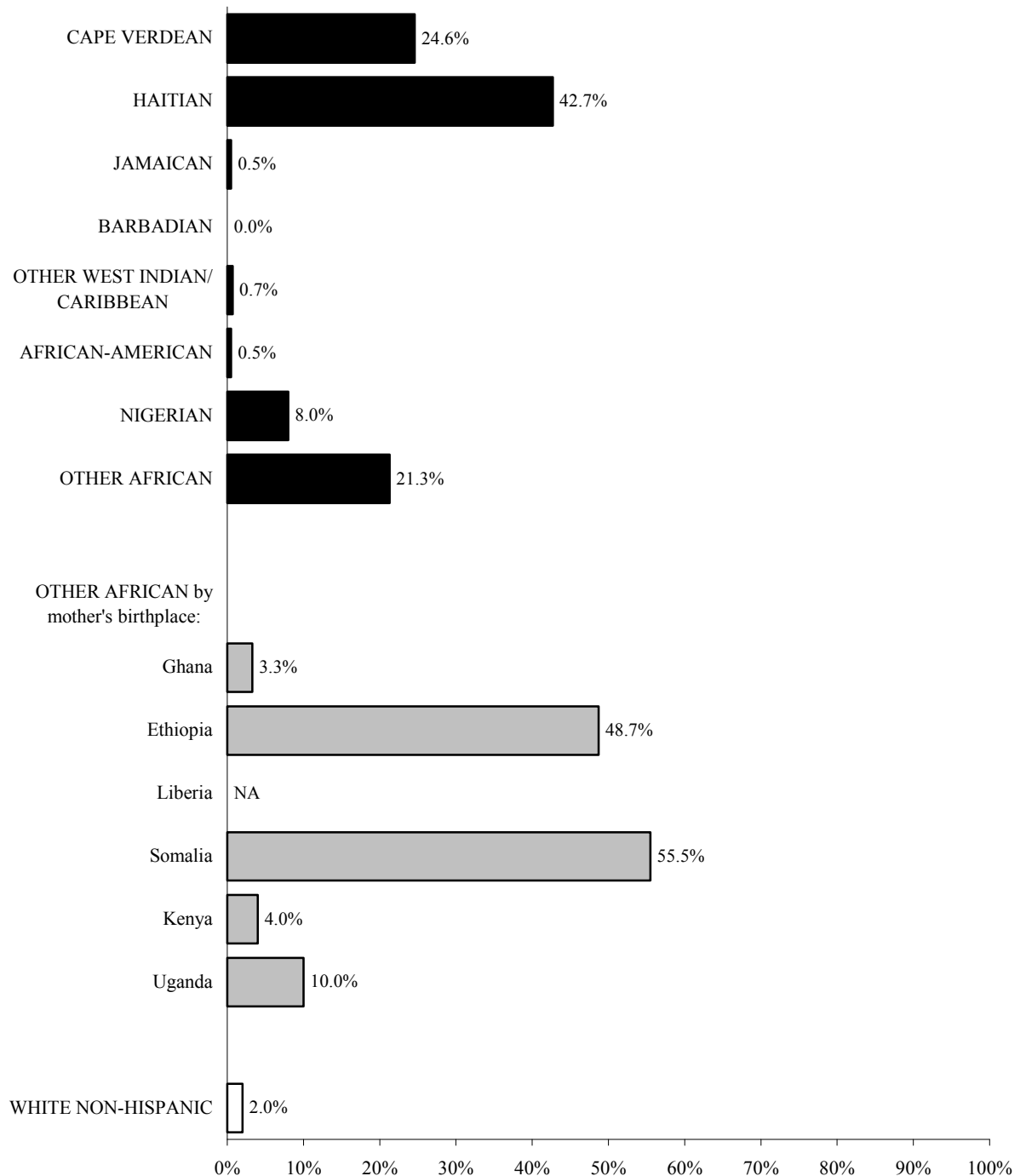
With the exception of African American women, the vast majority of Black mothers were born outside of the United States or its territories. Those born in Puerto Rico, the U.S. Virgin Islands, or Guam are considered U.S.-born. The percentage of non-U.S. born women ranged from a low of 60% for Cape Verdean women to a high of 97% for women classified as “Other African”. The percentage of White non-Hispanic women born outside the United States was 8% (Figure 3.6).

**Figure 3.4 Percentage Not Married Among Black and White non-Hispanic Mothers, by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3).

Figure 3.5 Percentage Preferring Language Other than English* Among Black and White non-Hispanic Mothers by Ethnicity and Place of Birth Massachusetts 1997-2000

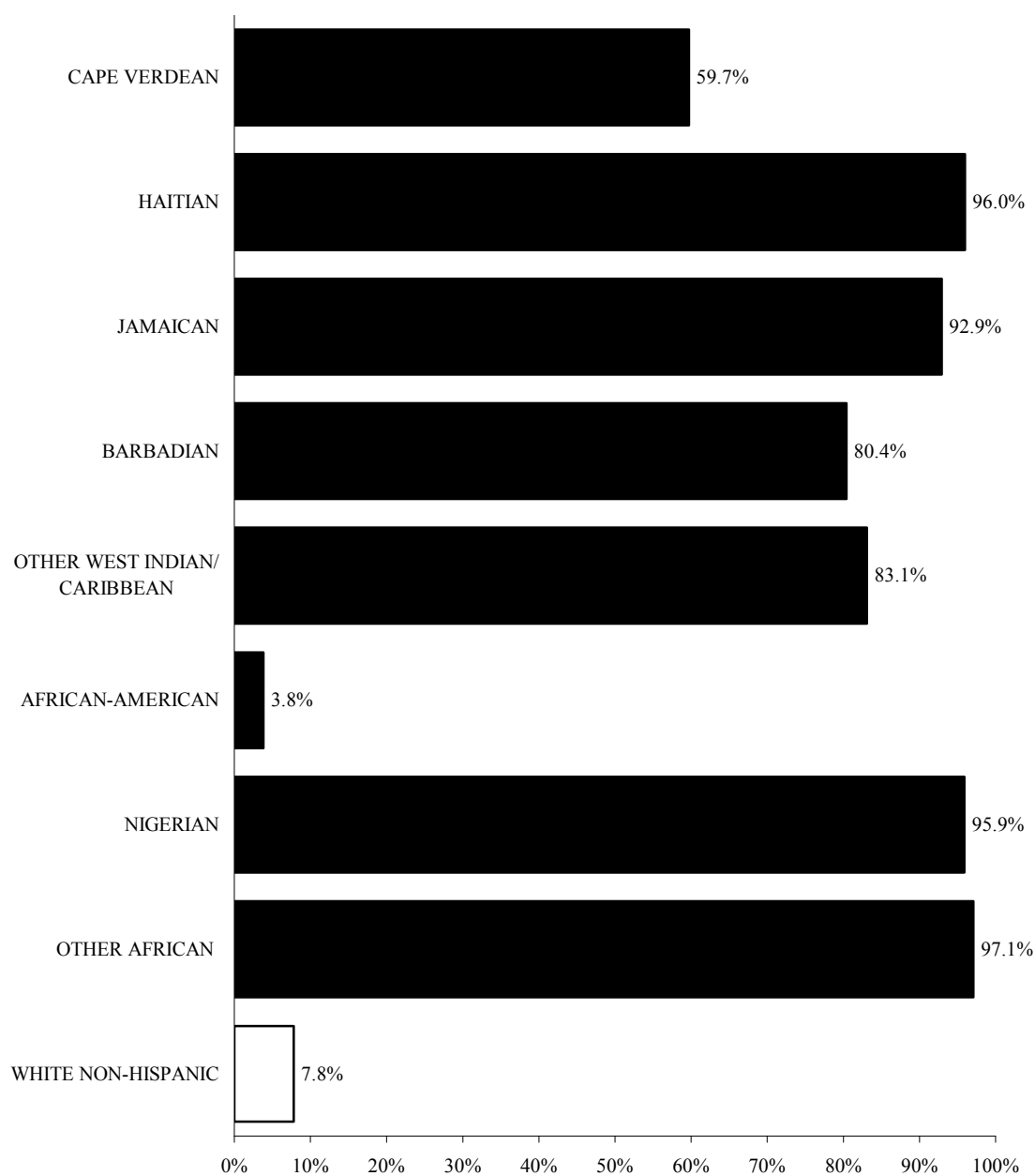


Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A3.1 & A3.3)

*Information on mother's language preference is collected from the mother at the time of birth, based on the birth certificate question, "In what language does the mother prefer to read or discuss health-related materials?"

NA: Percentages based on fewer than 5 events are excluded.

**Figure 3.6 Percentage of non-U.S. Born* Black and White non-Hispanic Mothers by Ethnicity
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A3.1)

*Not born in the United States, its possessions or protectorates (see glossary for full definition).

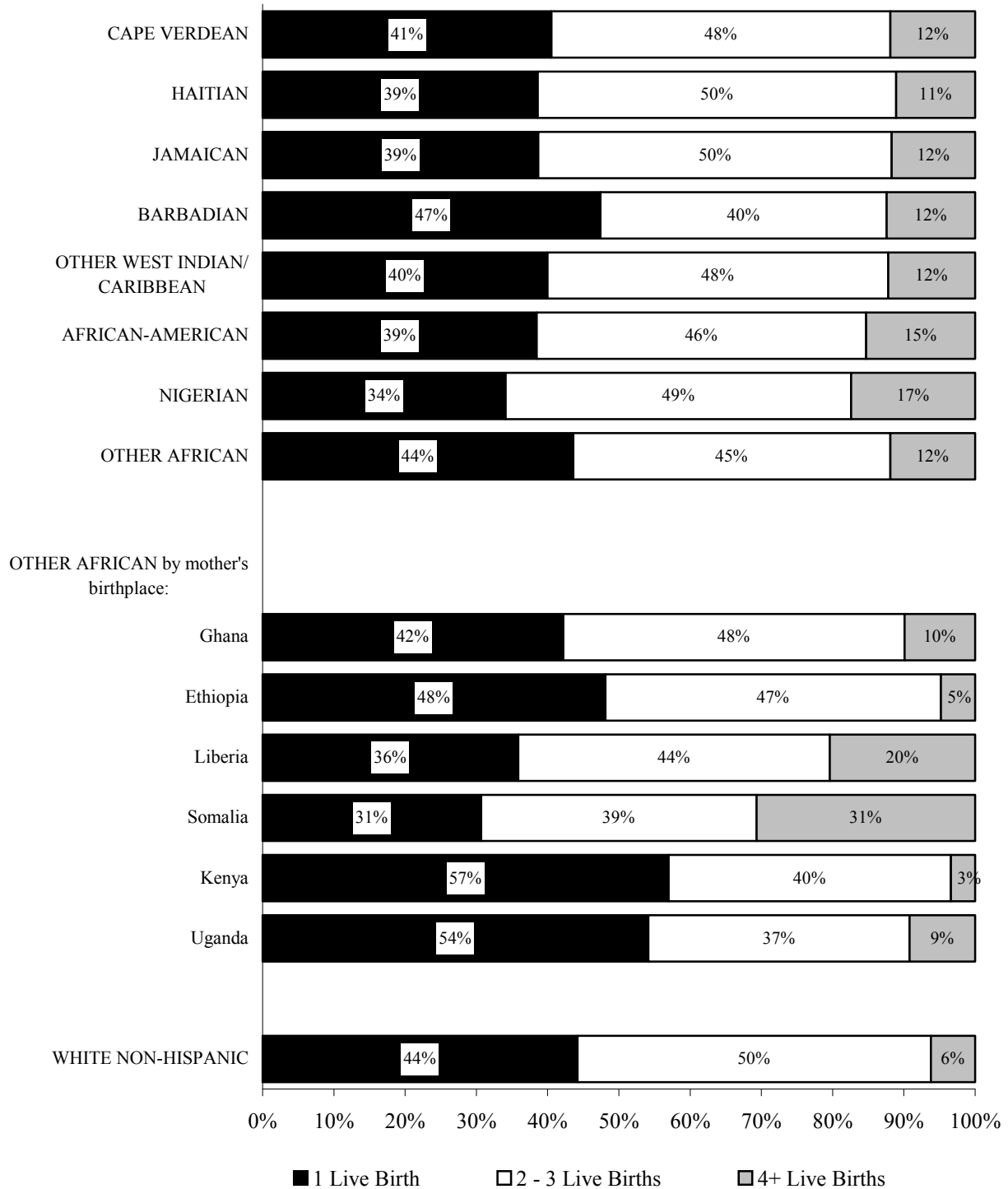
Chapter 4

Medical and Other Risk Characteristics of Black Mothers: 1997-2000

Did Black mothers differ in the total number of live births they have ever had?

For Massachusetts births between the years of 1997 and 2000, the percentage of Black mothers giving birth to their first child ranged from 34% for Nigerian women to 47% for Barbadian women. The comparable figure for White non-Hispanic mothers was 44%. Approximately 40% to 50% of Black mothers reported giving birth to their second or third child. An examination by place of birth for women classified as “Other African” showed a high level of first births among mothers born in Kenya (57%) and Uganda (54%). For the remaining women in this group the percent of first births ranges from 31% for mothers born in Somalia to 48% among mothers born in Ethiopia to (Figure 4.1).

**Figure 4.1 Percent Distribution of Total Number of Live Births to Black and White non-Hispanic Mothers by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A4.1 & A4.3).

Total Number of Live Births includes current birth.

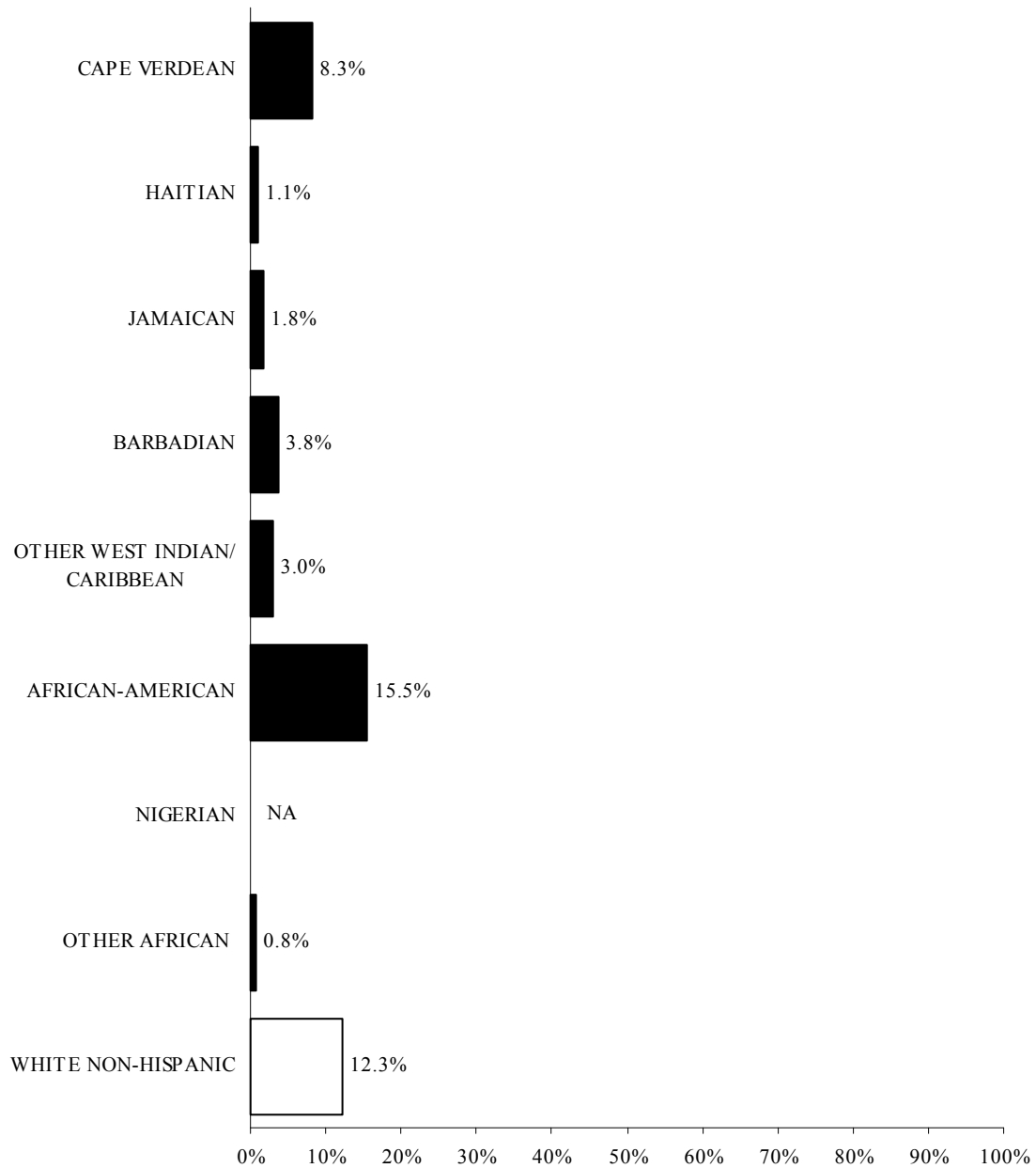
Between 1997 and 2000, what proportion of Black mothers smoked cigarettes during pregnancy?

African American mothers (16%) were more likely to report smoking cigarettes during pregnancy than White non-Hispanic mothers (12%). Among other Black groups the percent of mothers who reported smoking during pregnancy ranged from less than 1% among Other African women to 8% among Cape Verdean women.

Between 1997 and 2000, did the proportion of Black women who smoked cigarettes during pregnancy vary among teenage mothers?

Percentages of smoking during pregnancy were considerably lower for all Black teenage mothers (11%) as well as African American teens (12%) than for White non-Hispanic teen mothers (32%). Mothers 18 and 19 years old reported the highest percentages of smoking among teen mothers (12% for Black mothers and 32% for White non-Hispanic mothers). Nine percent of Black mothers aged 17 or less smoked during pregnancy compared with 30% of White non-Hispanic mothers (data not shown).

Figure 4.2 Percentage of Black and White non-Hispanic Mothers who Smoked During Pregnancy by Ethnicity: Massachusetts 1997-2000



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A4.1 & A4.3).

NA: Percentages based on fewer than 5 events are excluded.

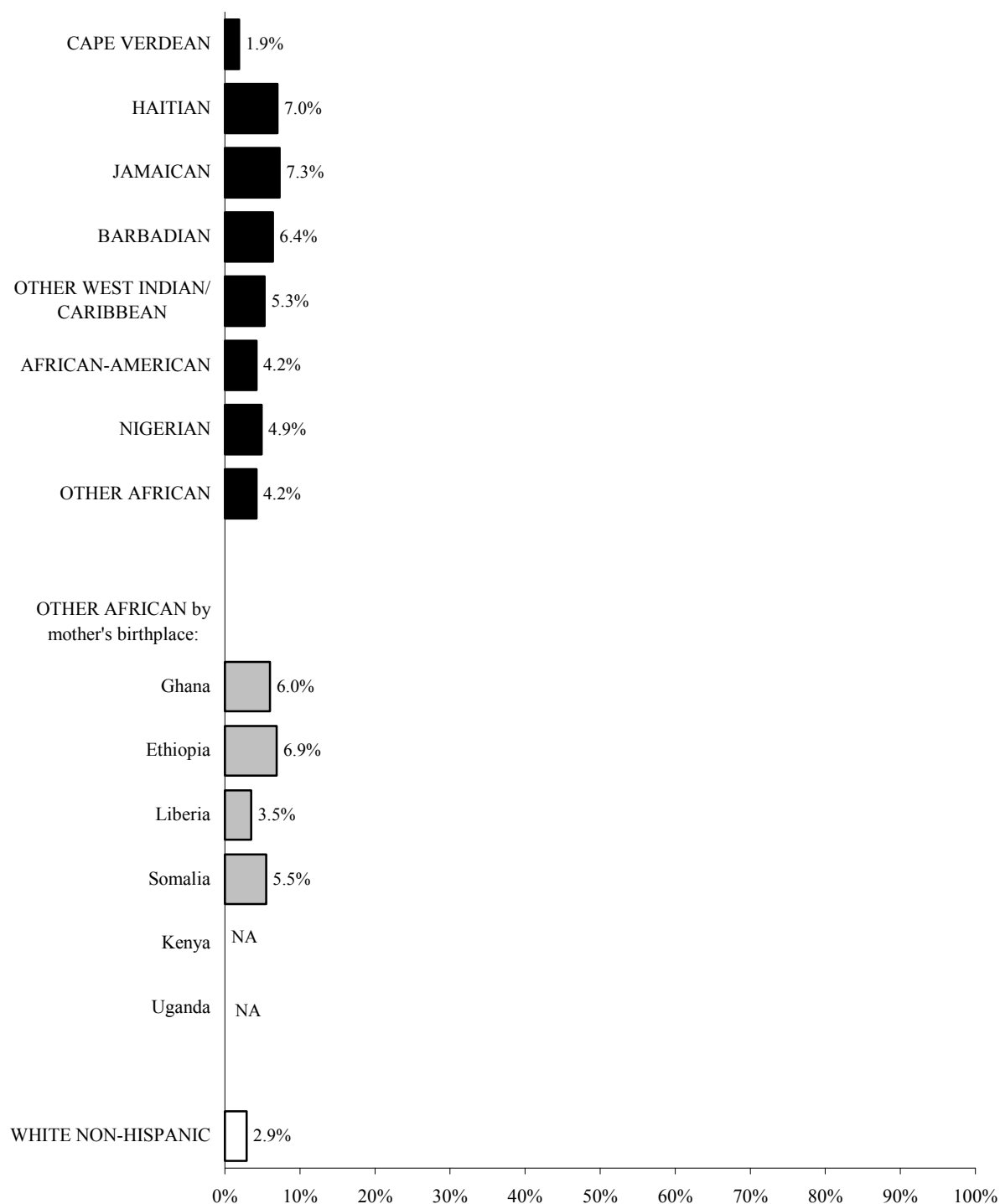
What proportion of Black mothers had medical risk factors that might have complicated their deliveries?

Conditions more frequently reported on the birth certificates of infants born to Black mothers than White non-Hispanic mothers included anemia, diabetes, and hypertension. With the exception of Cape Verdean mothers, the prevalence of diabetes was higher among Black mothers (range 4-7%) when compared to White non-Hispanic mothers (3%) (Figure 4.3).

All of the eight Black maternal groups showed prevalence of anemia that exceeded those reported for White non-Hispanics. The percent of mothers with anemia reported on their infants' birth certificates ranged from 4% among mothers classified as "Other African" and Cape Verdean to 8% among Haitian and African American mothers (Figure 4.4). Similar results were observed for hypertension during pregnancy (both chronic and pregnancy-related hypertension) (Figure 4.5).

The percentage of mothers who were reported on the birth certificate as hepatitis B carriers

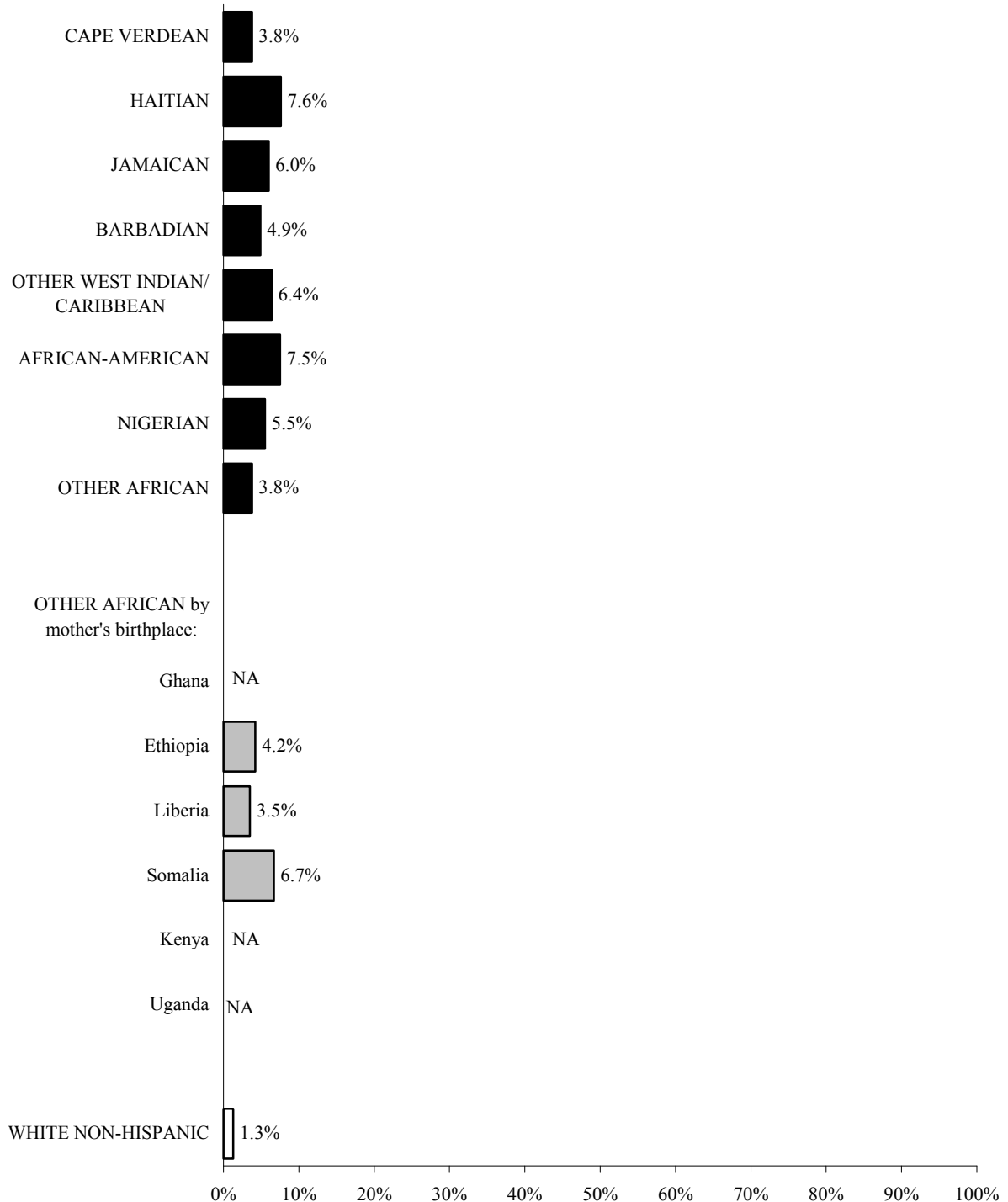
**Figure 4.3 Percentage of Black and White non-Hispanic Mothers with Diabetes* by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A4.1 & A4.3)

* Includes both gestational and other diabetes. NA: Percentages based on fewer than 5 events are excluded.

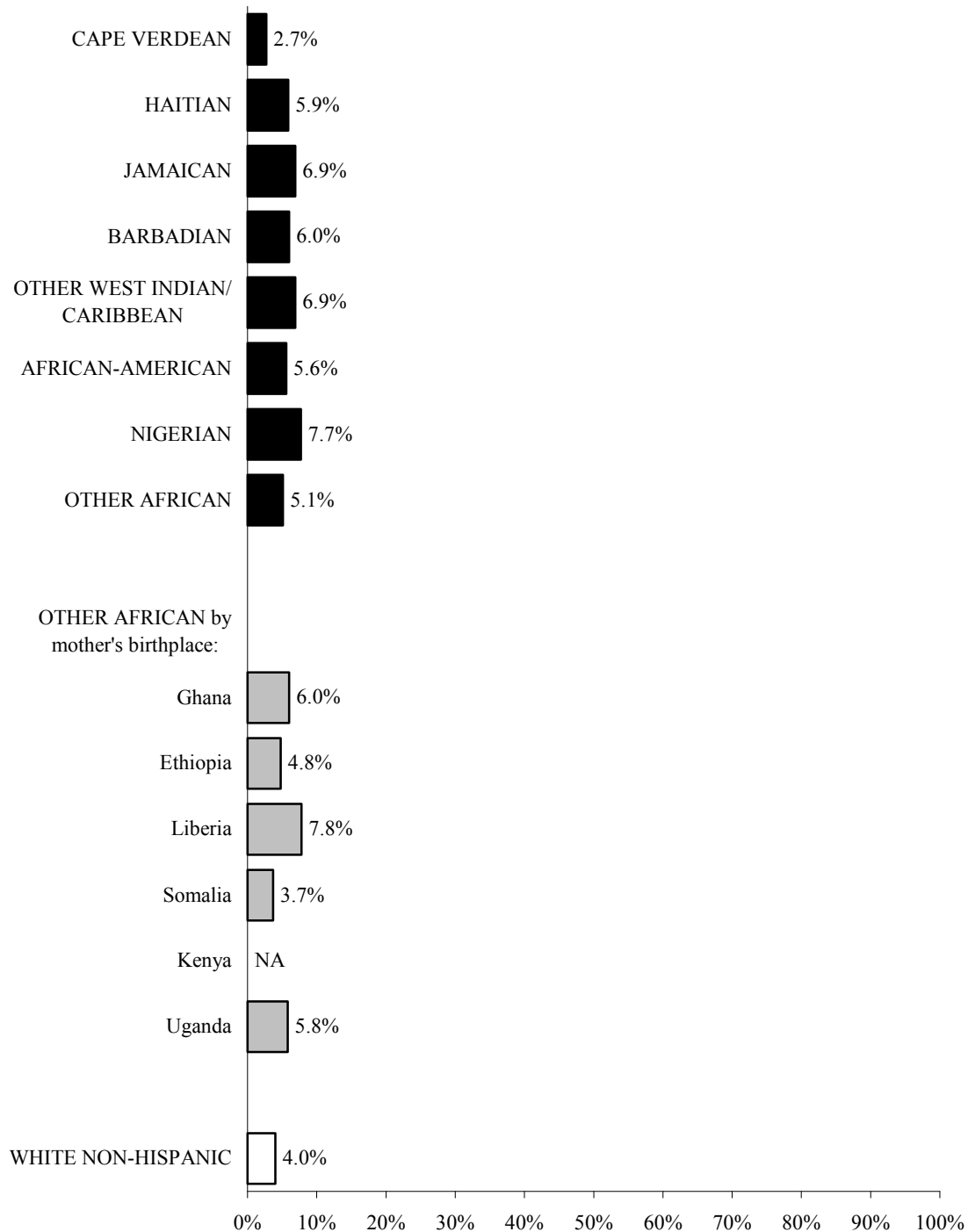
**Figure 4.4 Percentage of Black and White non-Hispanic Mothers with Anemia by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, (BHSR&E) (See Appendix Tables A4.1 & A4.3)

NA: Percentages based on fewer than 5 events are excluded.

**Figure 4.5 Percentage of Black and White non-Hispanic Mothers with Hypertension* by Ethnicity and Place of Birth
Massachusetts 1997-2000**



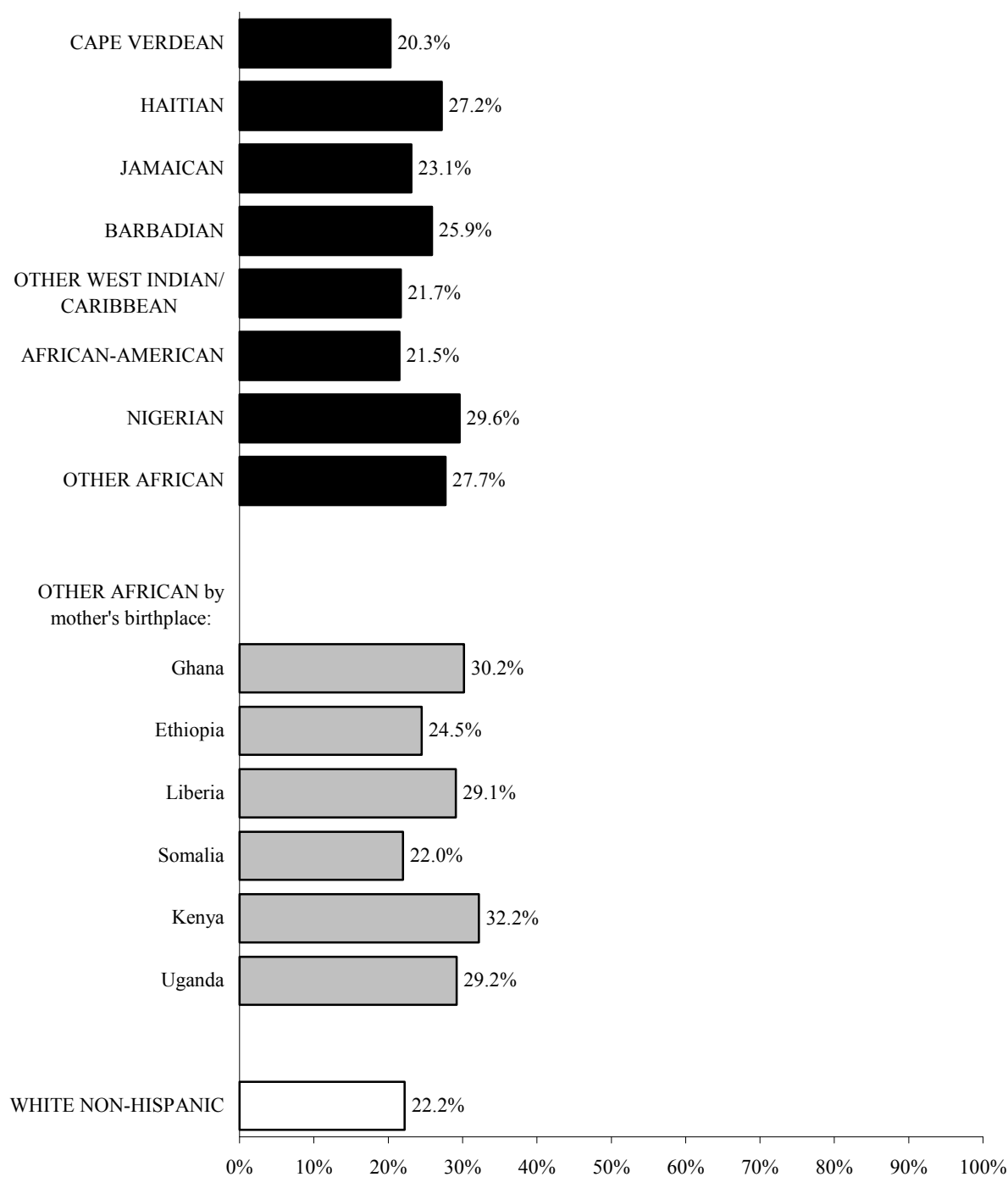
Source: Massachusetts Department of Public Health, (BHSR&E) (See Appendix Tables A4.1 & A4.3)

* Includes both chronic and pregnancy-related hypertension. NA: Percentages based on fewer than 5 events

What proportion of Black mothers had Cesarean section deliveries? How did the proportion of Cesarean section deliveries vary among Black women?

The percentage of Black mothers who delivered by Cesarean section ranged from 20% among Cape Verdean mothers to 30% among Nigerian mothers compared to 22% among White non-Hispanic mothers in Massachusetts (Figure 4.6).

**Figure 4.6 Percentage of Black and White non-Hispanic Mothers Delivering by Cesarean Section* by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, (BHSR&E) (See Appendix Tables A4.1 & A4.3)

* Includes both primary and repeat Cesarean sections. Excludes those with unknown method of delivery.

Chapter 5

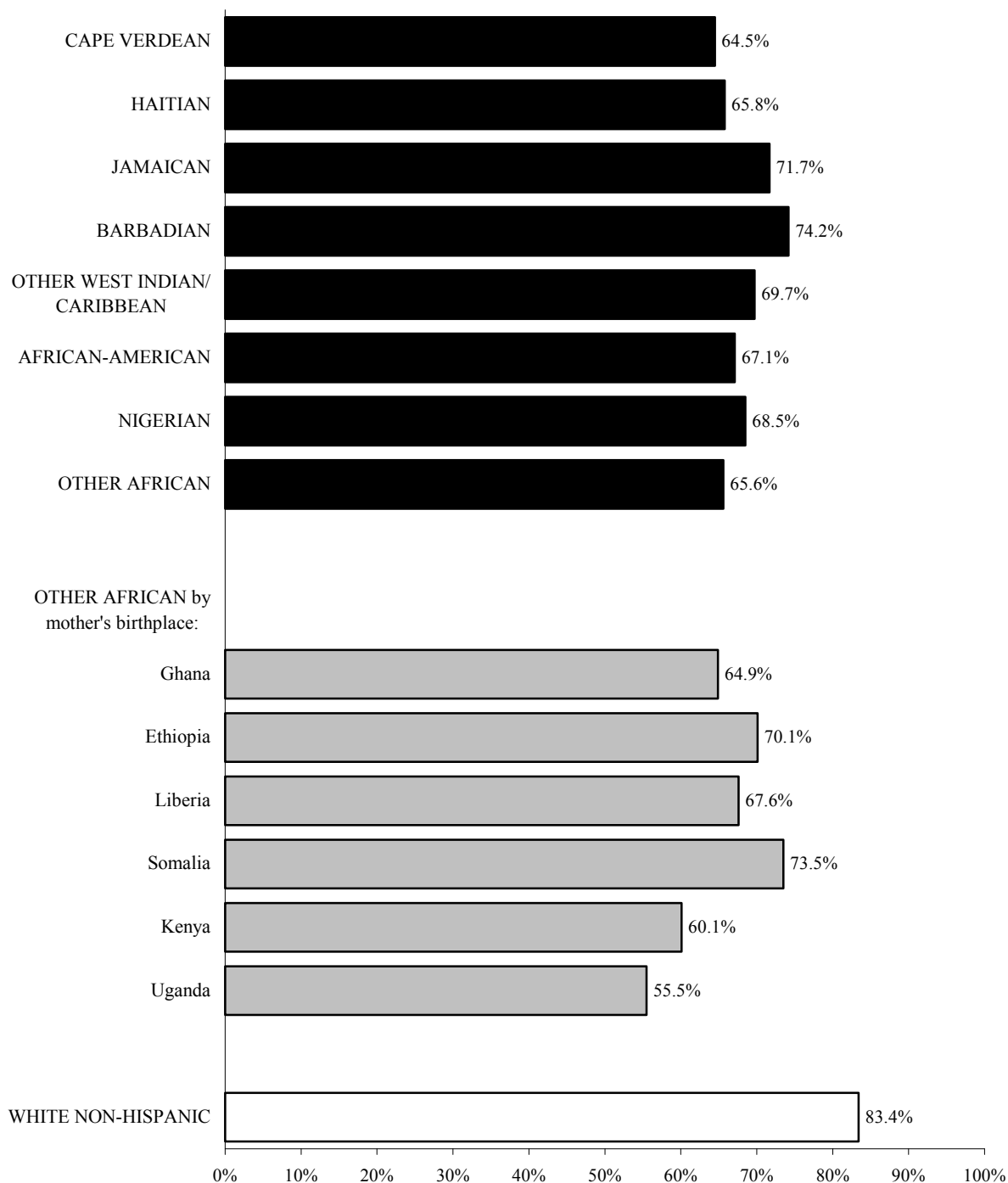
Prenatal Care among Black Mothers: 1997-2000

What proportion of Black women received adequate prenatal care⁴? How did the proportion of mothers receiving adequate prenatal care vary among Black mothers?

During 1997 through 2000, Black mothers were less likely to receive adequate prenatal care when compared to White non-Hispanic women. Rates of adequate prenatal care ranged from 65% among Cape Verdean women to 74% for Barbadian women. For African American women, the rate was 67.1%. The comparable figure for White non-Hispanic women was 83%. For “Other African” mothers, those born in Uganda and Kenya had low rates of adequate prenatal care, 56% and 60%, respectively (Figure 5.1).

⁴ Adequacy of prenatal care is a quantitative measure based on prenatal visits; it is not a measure of the quality of care. See glossary for a complete explanation. Excludes cases with unknown adequacy.

**Figure 5.1 Percent Distribution of Adequate Prenatal Care* Among Black and White non-Hispanic Mothers by Ethnicity and Place of Birth
Massachusetts 1997-2000**



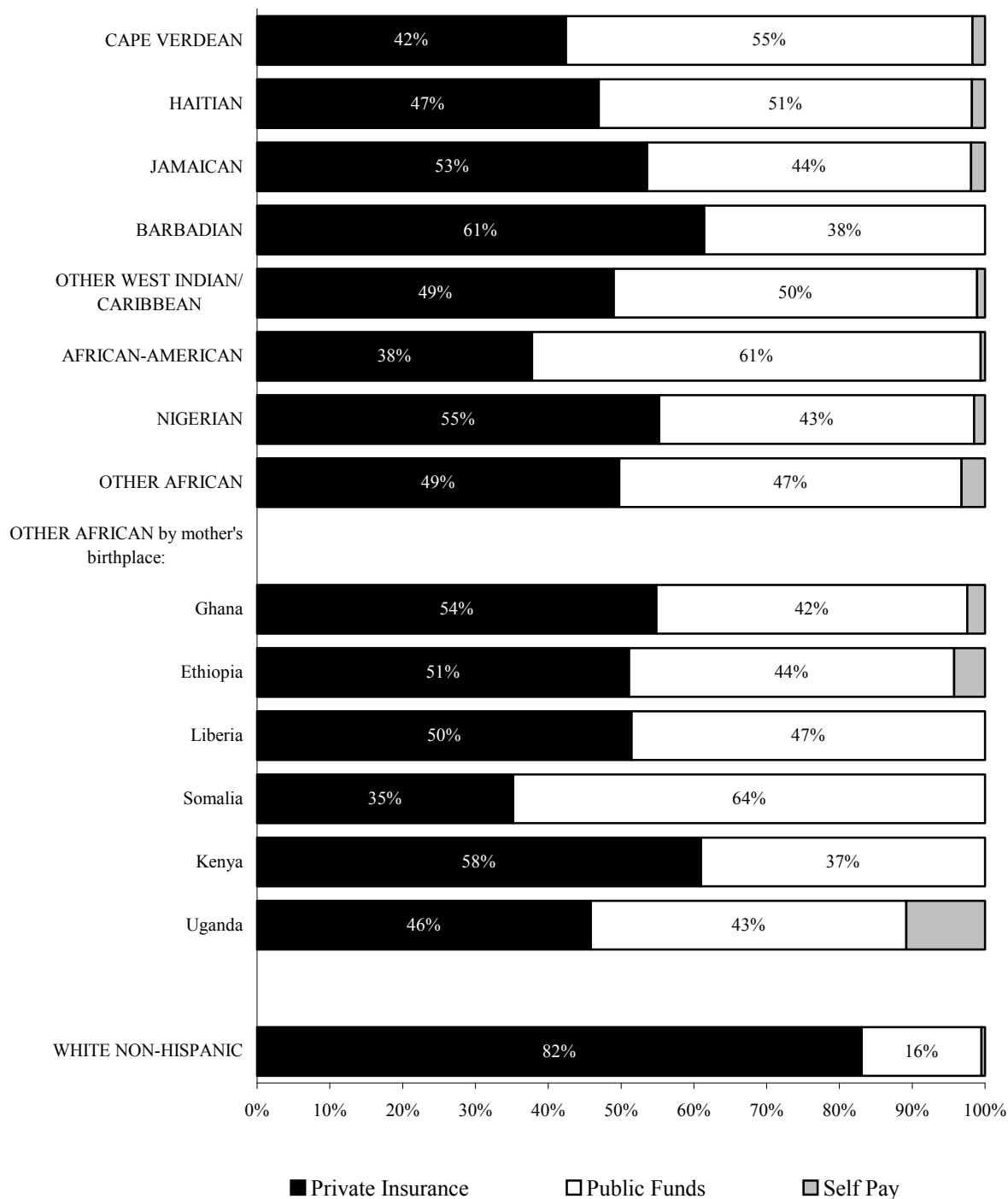
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3).

*Adequacy of prenatal care is a quantitative measure based on prenatal visits; it is not a measure of the quality of care. See glossary for a complete explanation. Excludes cases with unknown adequacy.

What kind of prenatal care health insurance did Black mothers have? How did the sources of prenatal care payment for Black mothers vary?

Use of private insurance (commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA) and other private insurance) among Black mothers of different ethnicity groups ranged from 38% among African Americans to 61% among Barbadians. Among White non-Hispanic mothers, 82% reported a private payment source. Use of public funds for prenatal care was highest for African American (61%) and Cape Verdean mothers (55%) and was higher for all Black mothers than for White non-Hispanic mothers (Figure 5.2).

**Figure 5.2 Percent Distribution of Prenatal Care Payment Source* Among Black and White non-Hispanic Mothers by Ethnicity and Place of Birth
Massachusetts 1997-2000**



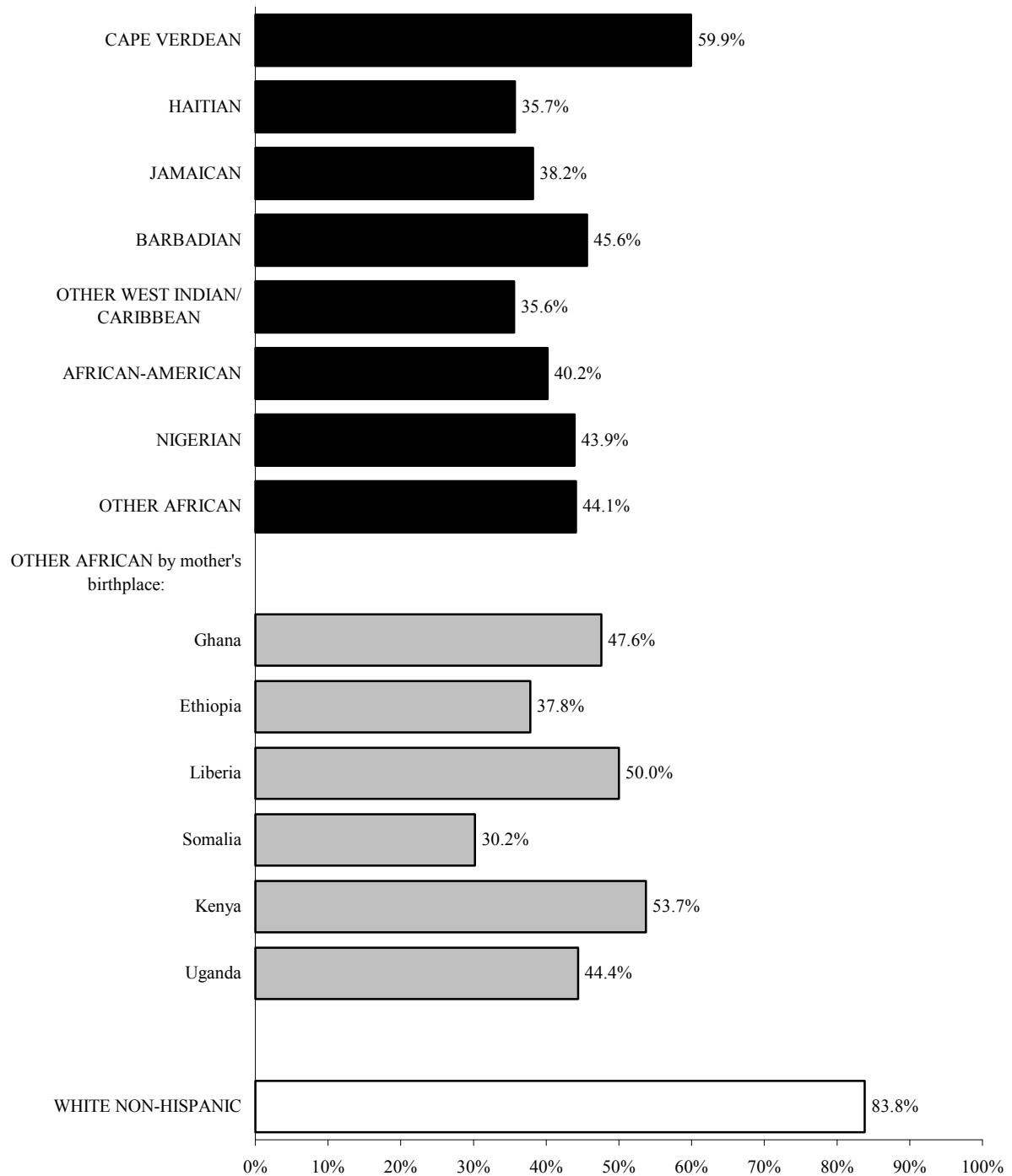
Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3).

*Prenatal Care payment source: Private = Commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA, and other), or other private insurance; Public = Government programs including Common Health, Healthy Start, Medicaid/ Mass Health and Medicare (may also be HMO or Managed care) or free care.

Where did Black mothers receive prenatal care?

Among Black mothers, prenatal care was most often obtained at a physician's office (range 36-60%), followed by hospital clinic (range 20-34%), community health centers (range 10-20%), and HMO's (6-16%). In contrast, only 2% of White non-Hispanic women received their prenatal care at a community health center while 84% of White non-Hispanic women received their prenatal care at private physicians' offices. Among Black mothers, Cape Verdean (60%) and Barbadian (46%) mothers had the highest proportion seen at physician offices. This proportion was lower among other Black groups ranging from 36% Haitian and "Other West Indian and Caribbean" women to 44% among Nigerian and "Other African" women. Use of hospital clinics and community centers as the site of prenatal care varied considerably among various Black groups (Figures 5.3-5.6).

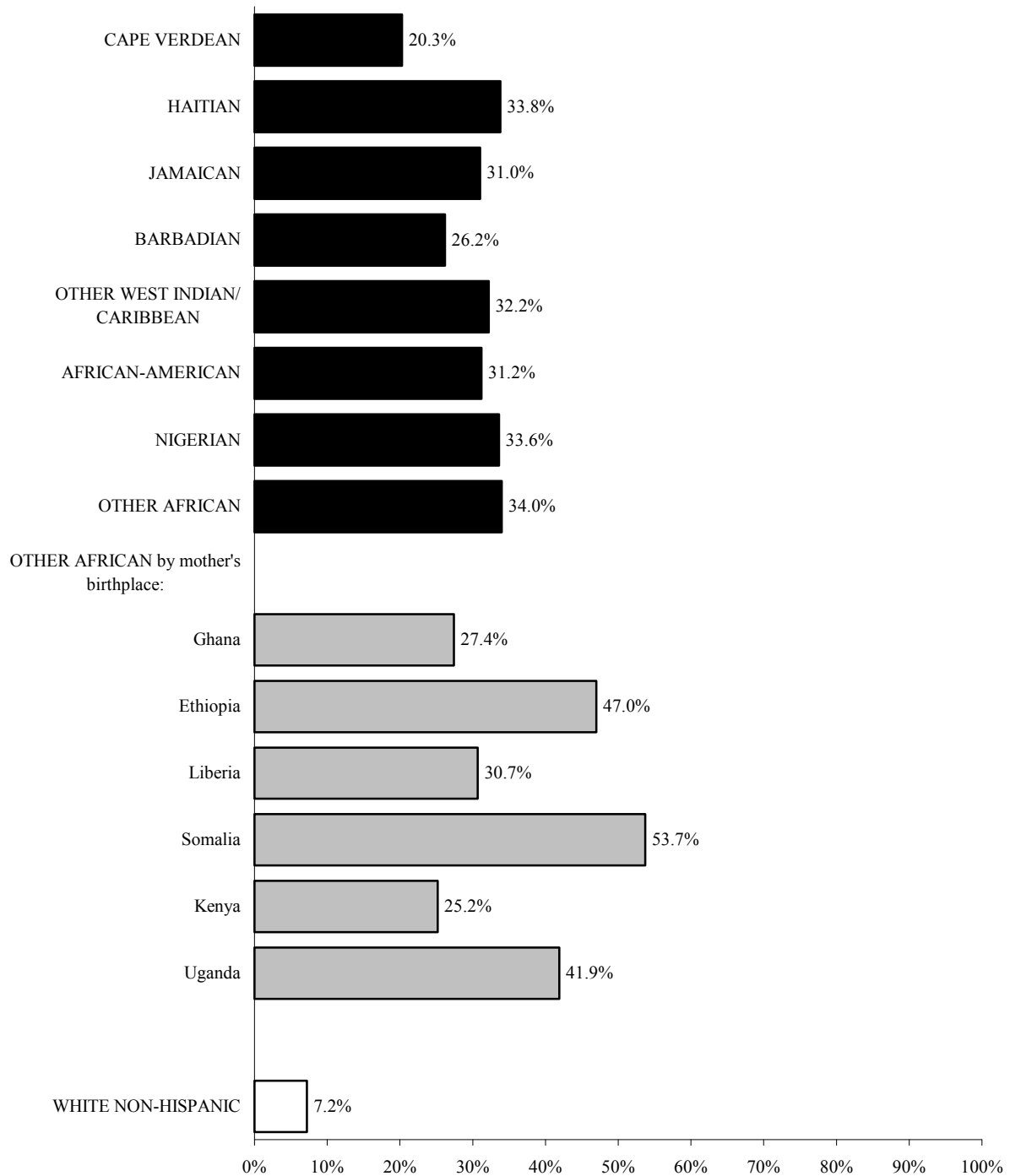
**Figure 5.3* Percentage of Physician's Office as Site of Prenatal Care Among Black and White non-Hispanic Mothers by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3)

*See figures 5.4 – 5.6 for other prenatal care sites.

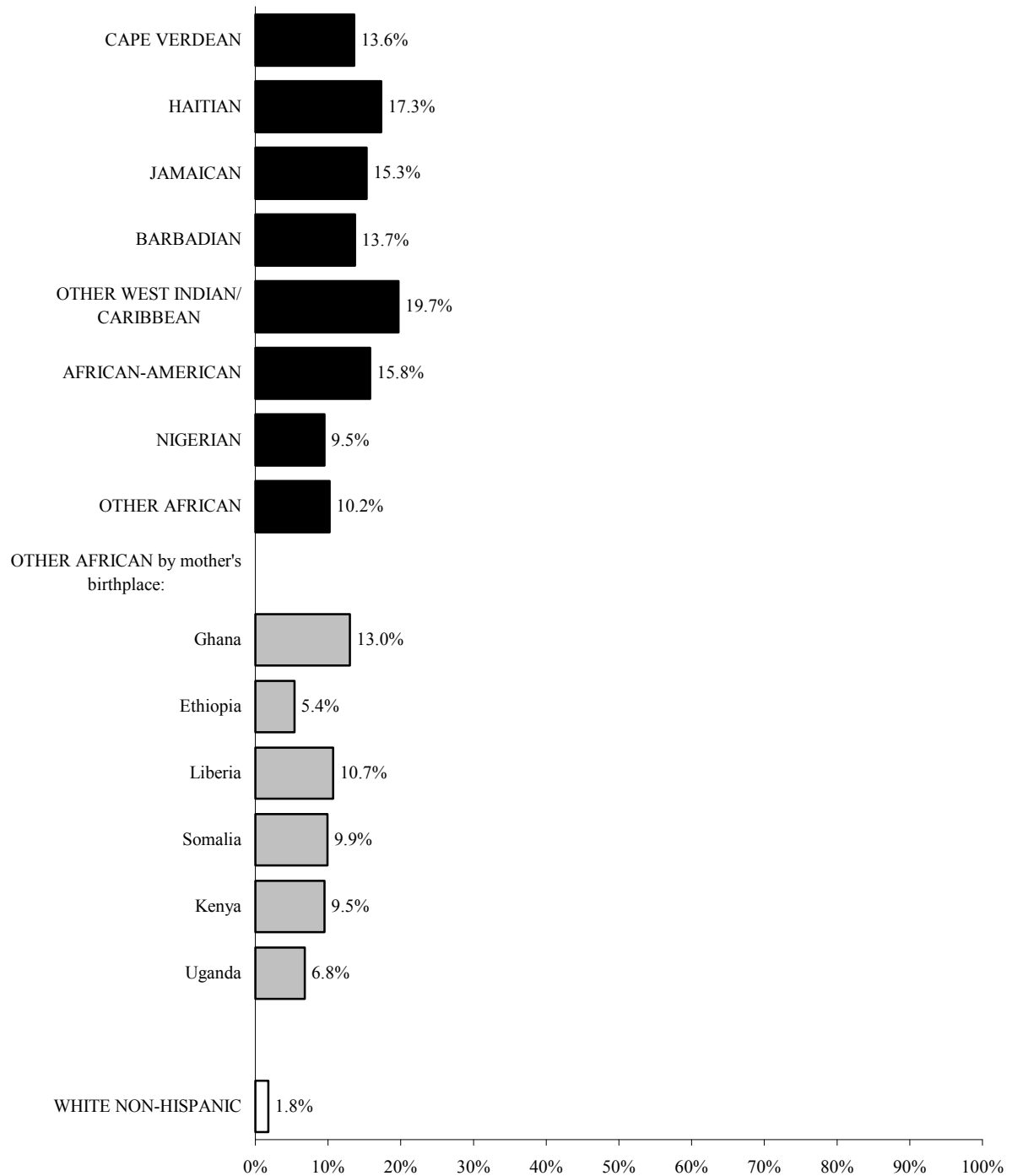
**Figure 5.4* Percentage of Hospital Clinic as Site of
Prenatal Care Among Black and White non-Hispanic
Mothers by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3)

*See figures 5.3, 5.5, and 5.6 for other prenatal care sites.

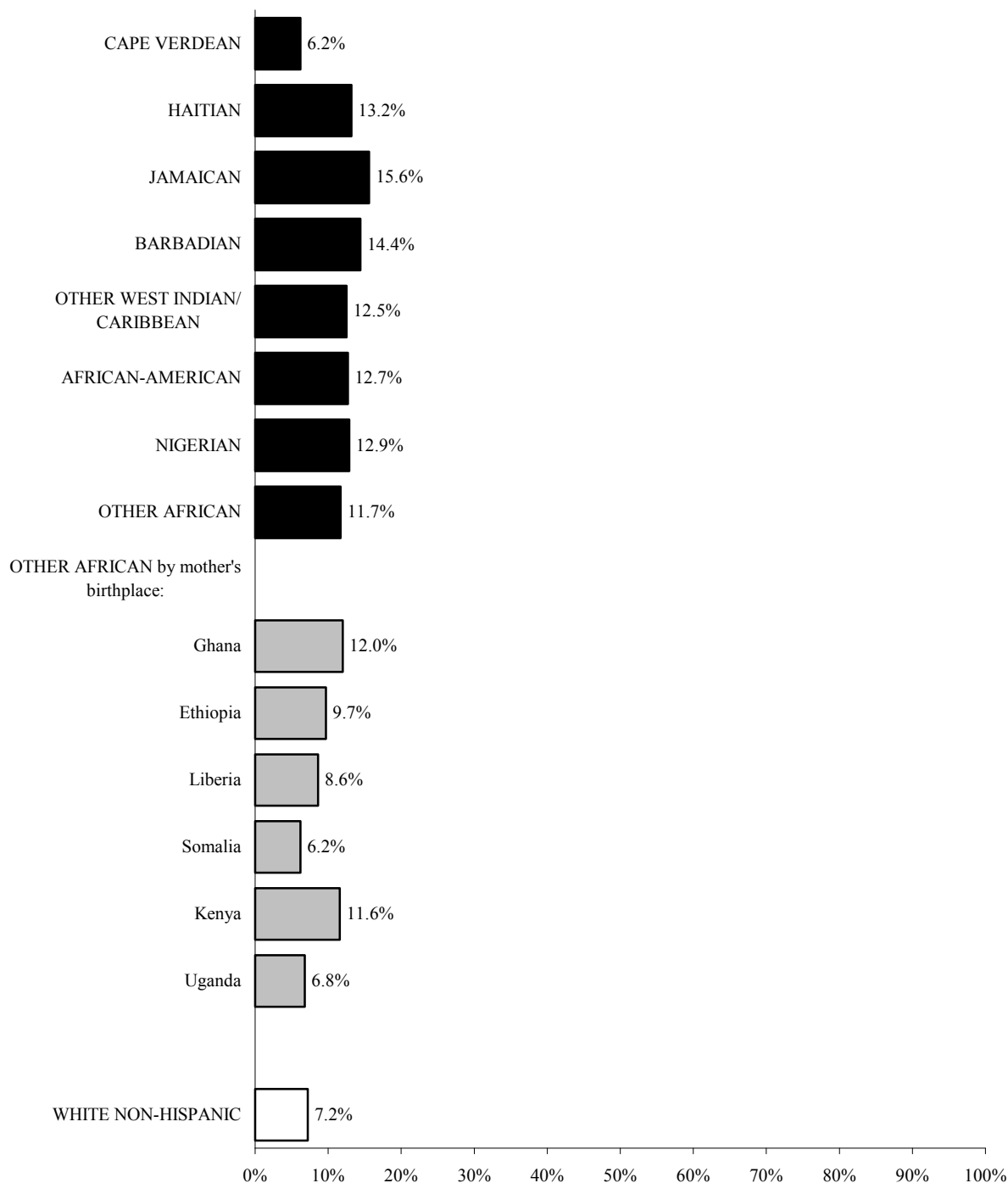
**Figure 5.5* Percentage of Community Health Center as Site of Prenatal Care Among Black and White non-Hispanic Mothers by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3)

*See figures 5.3, 5.4, and 5.6 for other prenatal care sites.

**Figure 5.6* Percentage of HMO and Other Facilities as Site of Prenatal Care Among Black and White non-Hispanic Mothers by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3)

*See figures 5.3 - 5.5 for other prenatal care sites.

Note: Other Facilities is a category on the birth certificate.

How did the prevalence of breastfeeding⁵ vary among Black mothers?

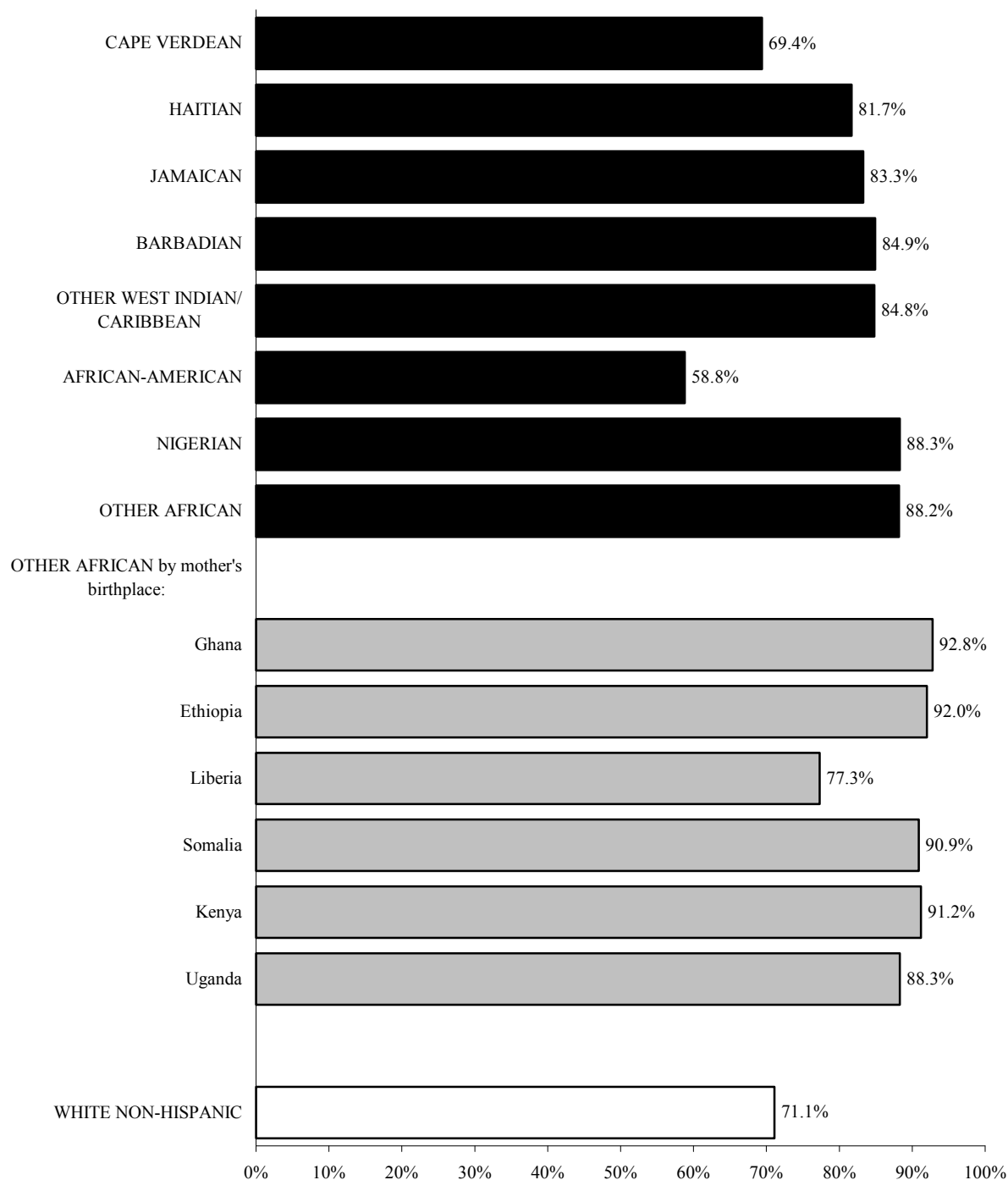
Intent to breastfeed tended to be higher overall among Black women, with the exception of African American and Cape Verdean women (59% and 69%, respectively), as compared to White non-Hispanic mothers (71%). Rates for other Black groups ranged between 82% and 88%. Among “Other African” mothers, rates ranged from 77% for mothers born in Liberia to 93% for mothers born in Ghana (Figure 5.7).

What percentage of Black mothers named a pediatric provider on the birth certificate?

At least 90% of all mothers named a pediatric provider. Rates were slightly lower among Black mothers (range 90-94%) as compared to 97% among White non-Hispanic mothers (Table A5.1).

⁵ Defined as mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

**Figure 5.7 Percentage of Black and White non-Hispanic Mothers who Intended to Breastfeed* by Ethnicity and Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A5.1 & A5.3)

*Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

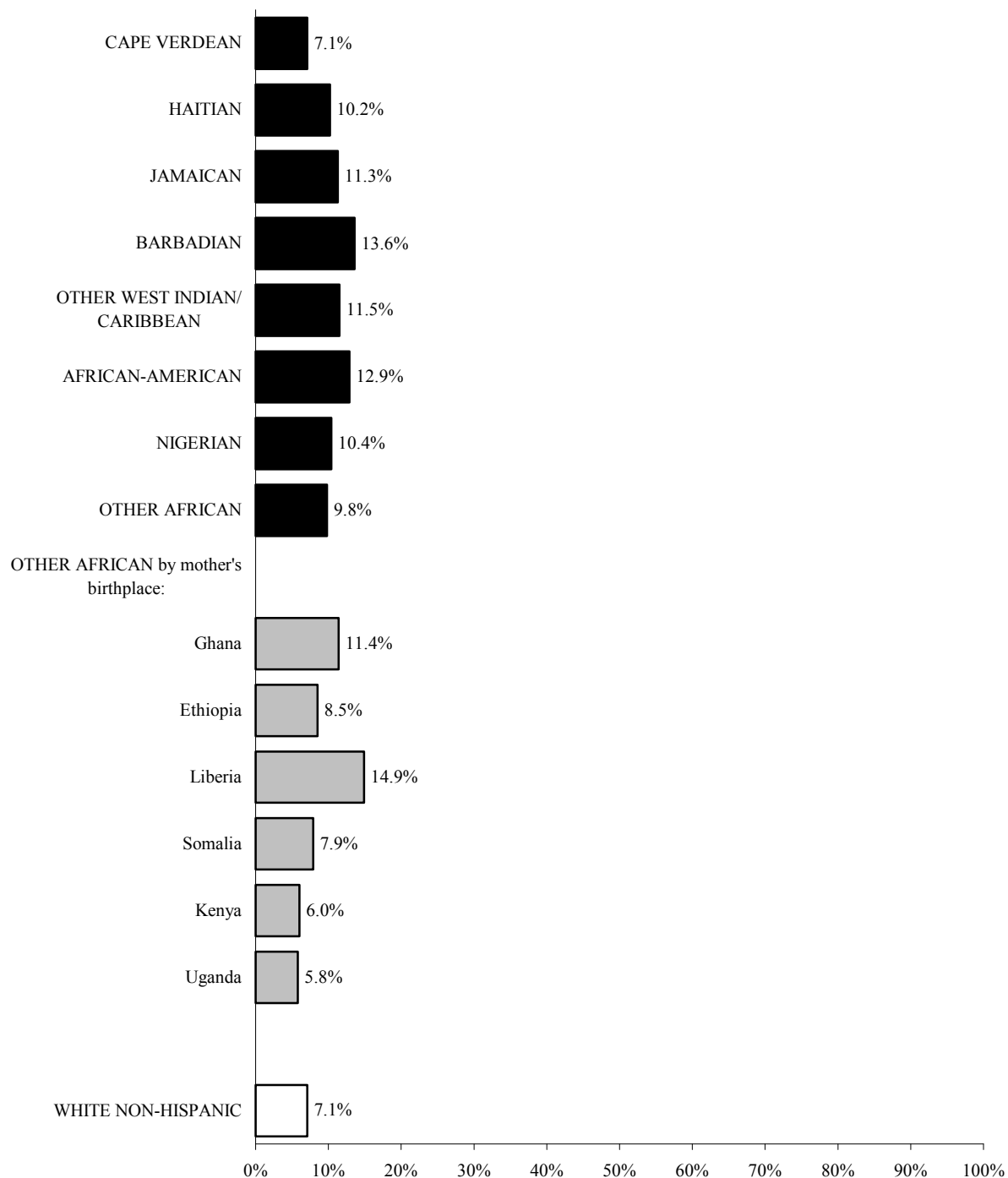
Chapter 6

Birth Outcomes and Health Characteristics of Black Infants in Massachusetts: 1997-2000

What proportion of births to Black mothers occurred before the 37th week of gestation (also known as early gestation or preterm births)?

Infants born before the completion of the 37th week of gestation are at greater risk for illnesses and death than are infants who are born at full term. Overall, with the exception of Cape Verdeans, all other Black groups had a greater proportion of premature births than did White non-Hispanic mothers (7%). Rates were highest among Barbadian mothers (14%) and African American mothers (13%). Rates were slightly lower among other Black groups ranging from 12% for women classified as “Other West Indian and Caribbean” to 7% for Cape Verdeans. The distribution of preterm births among African women by place of birth showed higher rates of births of less than 37 weeks gestation for women born in Liberia (15%), and Ghana (11%) compared to other African mothers (Figure 6.1).

**Figure 6.1 Percentage of Preterm* Black and White non-Hispanic Infants by Ethnicity and Mother's Place of Birth
Massachusetts 1997-2000**

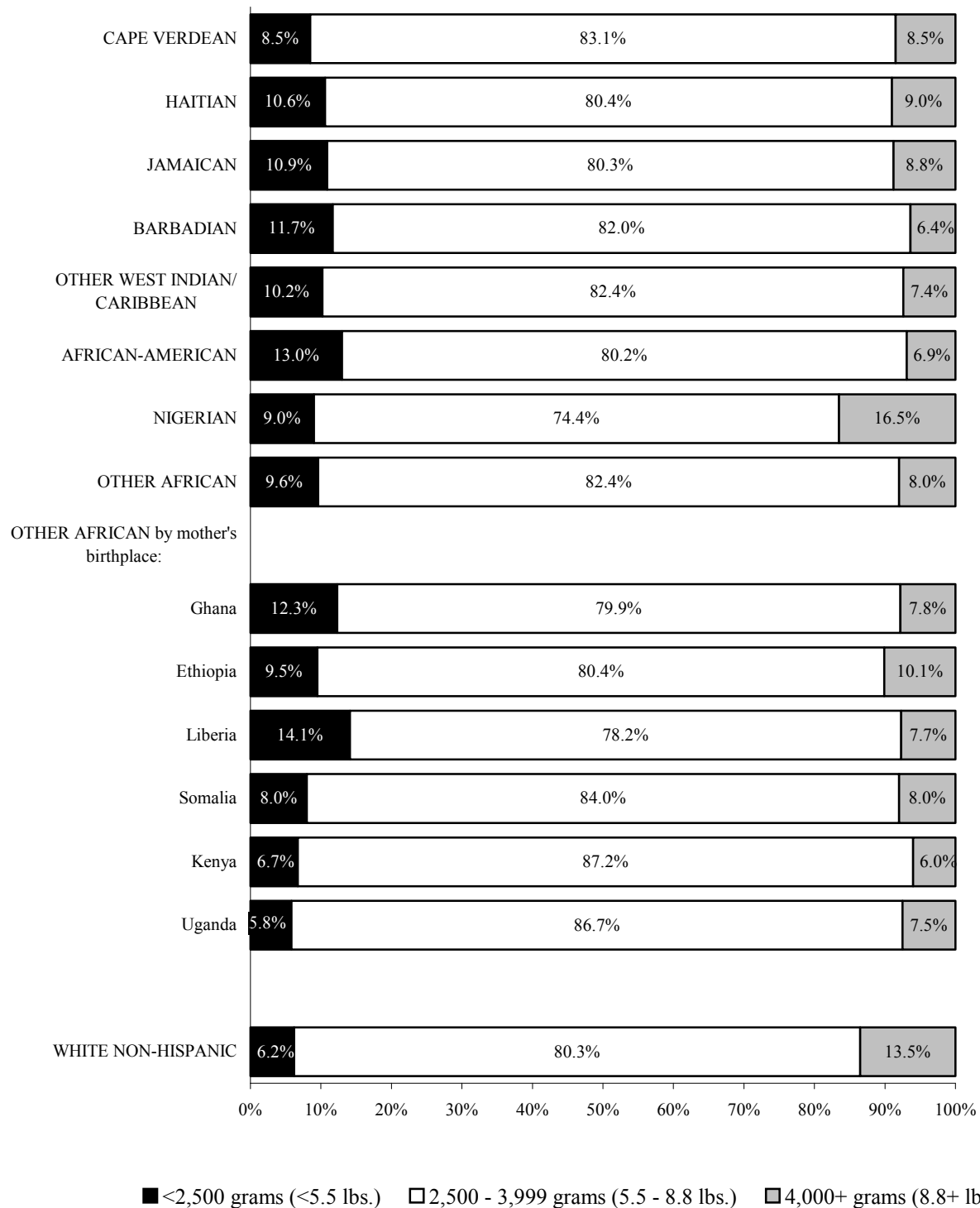


Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A6.1 & A6.3)

* Preterm is defined as gestational age less than 37 weeks.

Low birthweight infants weigh less than 2,500 grams (5.5 pounds) and are at increased risk of illness and death. Compared with White non-Hispanic mothers in Massachusetts, Black women were more likely to deliver a low birthweight child. Among White non-Hispanic mothers, 6% of infants were low birthweight. The occurrence of low birthweight children was higher among all Black groups ranging from 9% for Cape Verdean and Nigerian mothers to 13% for African American women. African American mothers were more than twice as likely as White, non-Hispanic mothers to deliver a low birthweight infant. Nigerian women also had a high proportion of heavy weight infants among Black mothers, 16.5% of infants weighed 4,000 or more grams at birth. Women born in Liberia (14%) and Ghana (12%) had high percentages of low birthweight children (Figure 6.2).

**Figure 6.2 Percent Distribution of Birthweight Among
Black and White non-Hispanic Infants by Ethnicity
and Mother's Place of Birth
Massachusetts 1997-2000**

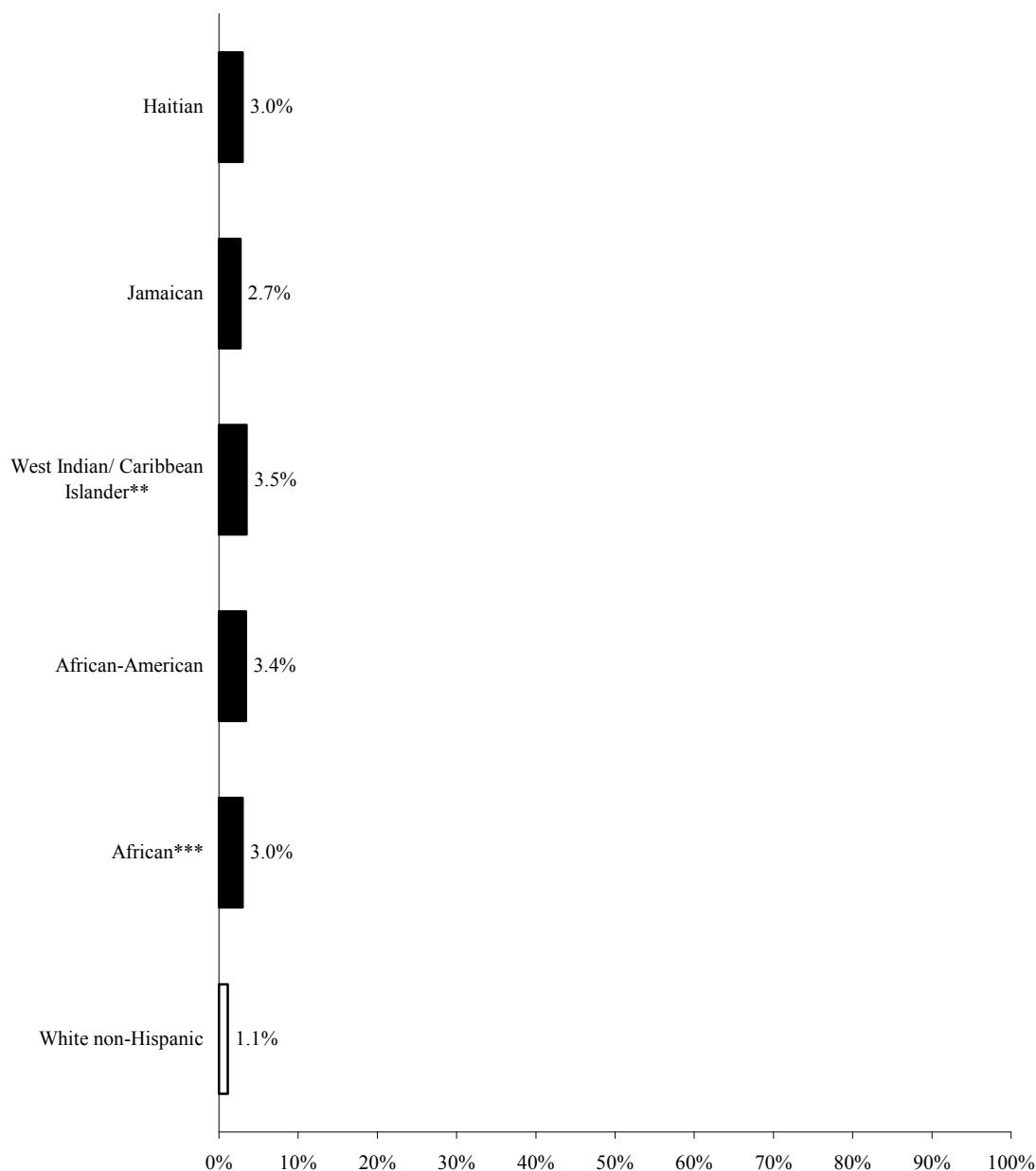


Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A6.1 & A6.3).

From 1997 through 2000, what percentage of Black women delivered a very low birthweight infant in Massachusetts? Did the proportion of very low birthweight infants vary among Black groups?

Very low birthweight infants weigh less than 1,500 grams (3.3 pounds) and represent those infants at highest risk of illness and death. The percentage of very low birthweight infants was higher for Black subgroups than for White, non-Hispanics (1.1%). The highest percentage of very low birthweight was 3.5%, among the “West Indian/Caribbean Islander” group (including ethnicity groups of “Other West Indian/Caribbean Islander” and “Barbadian” for this figure), followed by 3.4% among African Americans (Figure 6.3). The percentage of very low birthweight infants for all Blacks was 3.2% (see Appendix Table A6.5).

**Figure 6.3 Percentage of Very Low Birthweight
Infants* Among all Black and White non-Hispanics
Infants by Ethnicity
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A6.5)

* Infants with birthweight < 1,500 grams (<3.3 lbs.)

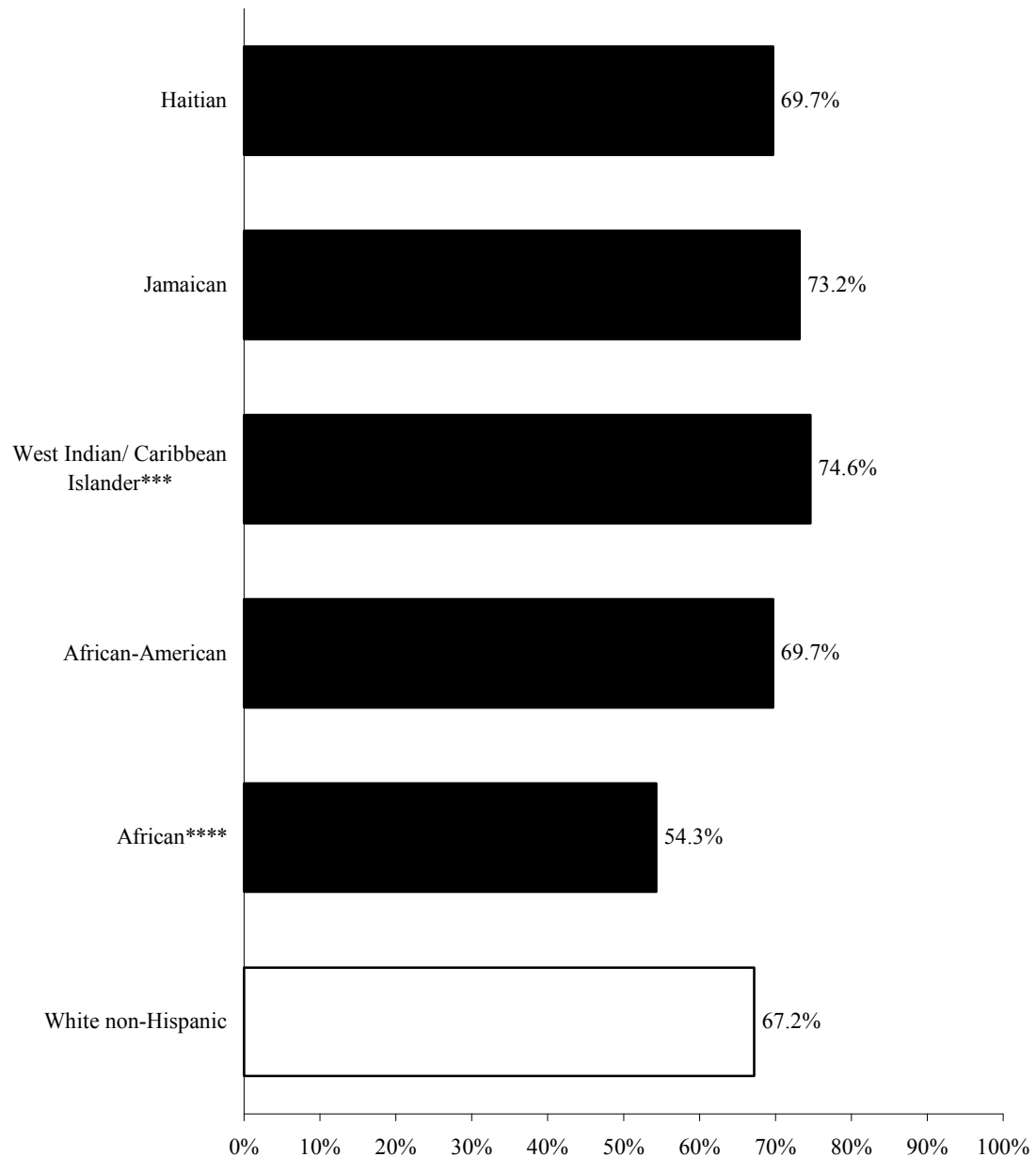
** Includes ethnic groups “Barbadian” and “Other West Indian/Caribbean Islander” .

*** Includes ethnic groups “Nigerian” and “Other African”.

From 1997 through 2000, what percentage of Black low birthweight infants were preterm (having a gestational age of less than 37 weeks)?

There was a tendency for low birthweight infants to be preterm regardless of the mother's ethnicity. African mothers had the lowest percentage of low birthweight infants who were preterm (54%), and there was less variation between the other four groups (Haitian: 69.7%; African American: 69.7%; Jamaican: 73.2%; West Indian/Caribbean Islander: 74.6%).

Figure 6.4 Percentage of Preterm* Infants Among all Black and White non-Hispanic Low Birthweight Infants by Ethnicity
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A6.12)

* Preterm is defined as gestational age less than 37 weeks.

**Infants with birthweight <2,500 grams (<5.5 lbs.)

*** Includes ethnic groups "Barbadian" and "Other West Indian/Caribbean Islander".

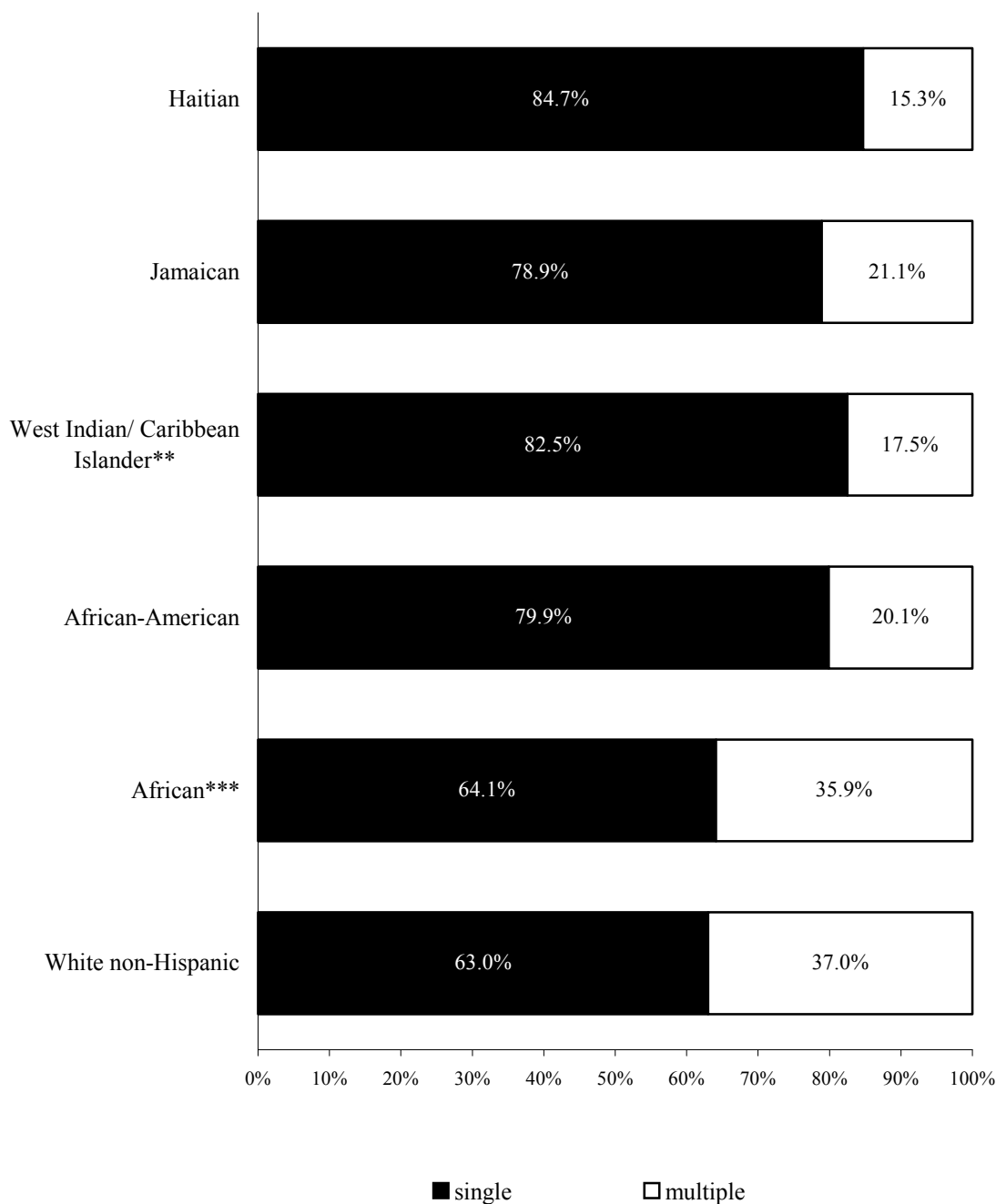
**** Includes ethnic groups "Nigerian" and "Other African".

How is low birthweight related to plurality among Black and White non-Hispanic women?

Multiple births (also called multiple plurality) are related to low birthweight. Each infant born as a twin, triplet, etc; will tend to be of lower birthweight than a singleton birth. When low birthweight is not the result of multiple plurality, the implications for prenatal interventions are different than when low birthweight results from multiple births.

The strongest relationship between plurality and low birthweight was observed among White non-Hispanic women. More than 35% of low birthweight infants delivered to White non-Hispanic women were of multiple plurality. A similar percentage was observed for “African” mothers. All other Black groups showed multiple plurality percentages that were significantly lower (range 15%-21%) than that observed for White non-Hispanic women. Multiple plurality occurred less frequently among low birthweight children delivered by Haitian (15%), Jamaican (21%), West Indian/ Caribbean Islanders (18%) and African Americans (20%) (Figure 6.5).

**Figure 6.5 Percent Plurality Distribution Among
Black and White non-Hispanic Low Birthweight Infants*
of Infants by Ethnicity
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A6.12)

*Infants with birthweight <2,500 grams (<5.5 lbs.)

** Includes ethnicity groups “Barbadian” and “Other West Indian/Caribbean Islander” .

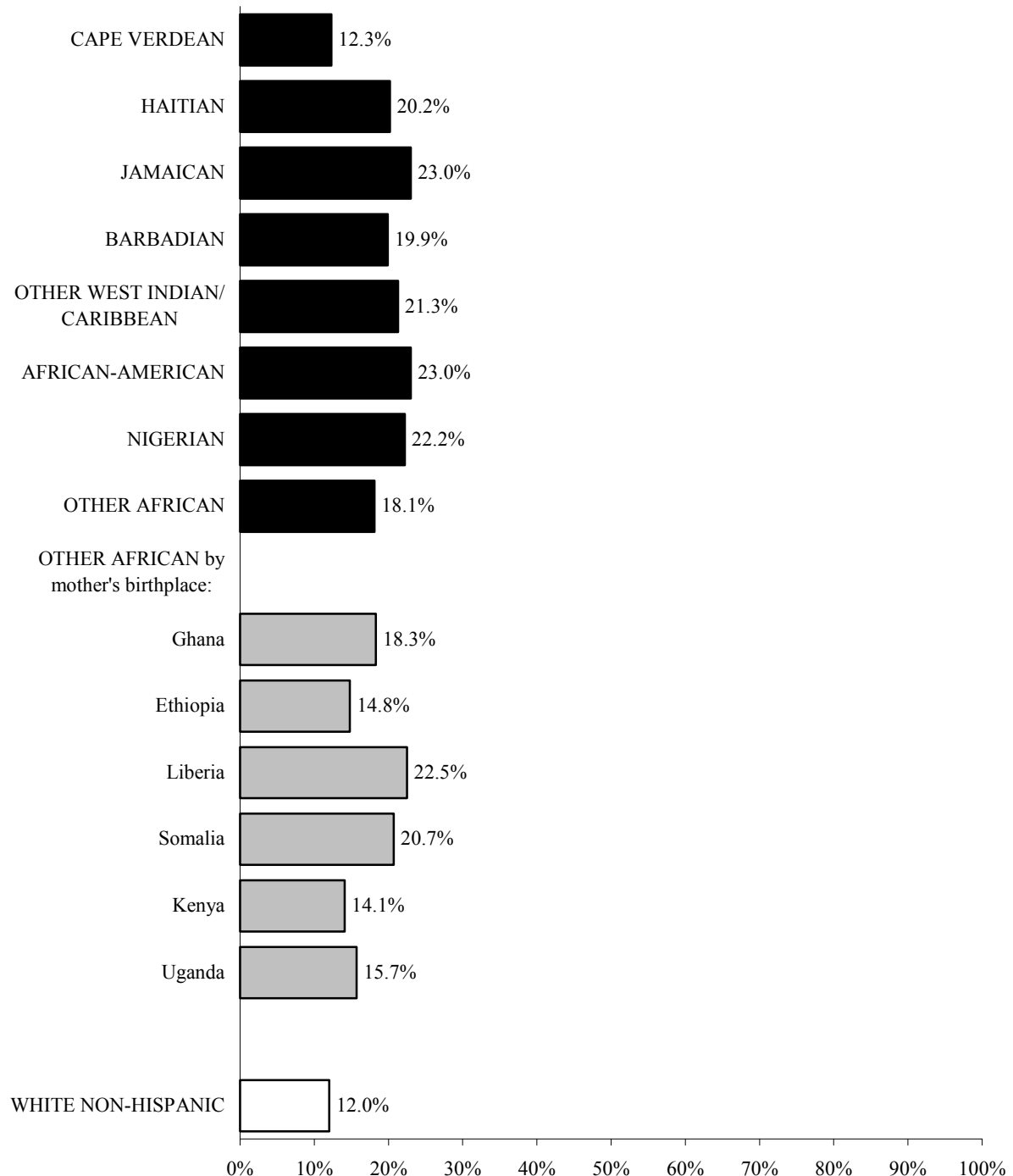
*** Includes ethnicity groups “Nigerian” and “Other African”.

Did the proportion of infants born with abnormal conditions vary among Black groups?

Among infants of Black women, 12%-23% had at least one abnormal condition recorded on the birth certificate, compared with 12% of infants born to White non-Hispanic women. Rates were lowest among Cape Verdean women (12%) and highest among African American (23%) and Jamaican (23%) mothers. “Other African” mothers born in Ghana (18%), Ethiopia (15%), Kenya (14%), and Uganda (16%) had lower percentages of children with abnormal conditions when compared to mothers born in Liberia (23%), and Somalia (21%) (Figure 6.6).

Jaundice, which is one particular abnormal condition, was more prevalent among infants in all Black groups (range 6%-9%) when compared to infants of White non-Hispanic women (5%). This condition was most prevalent among Jamaican (9%) and Barbadian (9%) infants (Figure 6.7).

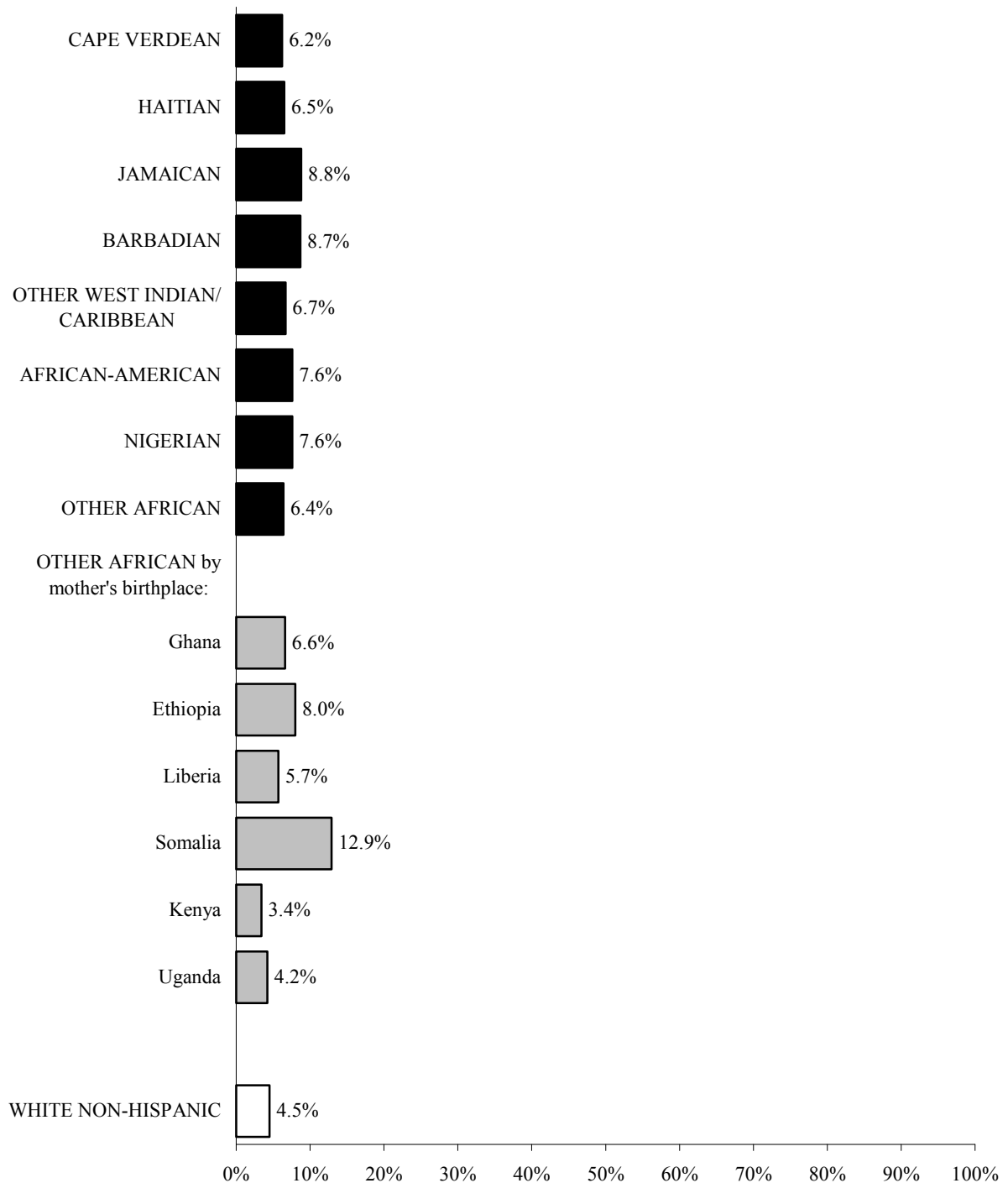
**Figure 6.6 Percentage of Abnormal Conditions* Among Black and White non-Hispanic Infants by Ethnicity and Mother's Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A6.1 & A6.3).

* Conditions indicated on a checklist on the birth certificate worksheet. See glossary for a definition of abnormal conditions.

**Figure 6.7 Percentage of Jaundice Among Black and White non-Hispanic Infants by Ethnicity and Mother's Place of Birth
Massachusetts 1997-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Tables A6.1 & A6.3).

* See glossary for definition of jaundice.

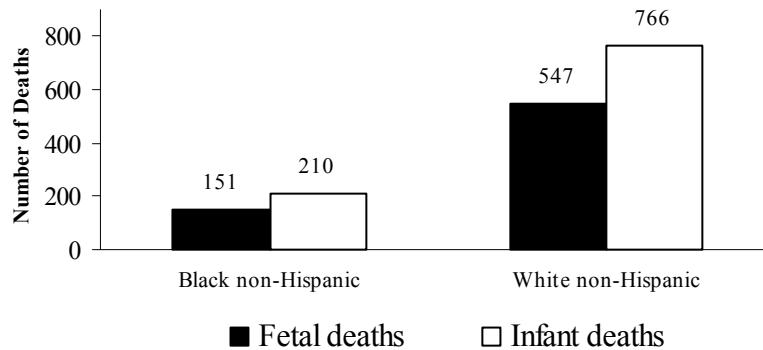
Chapter 7

Black Fetal Mortality and Infant Mortality, Massachusetts: 1997-2000

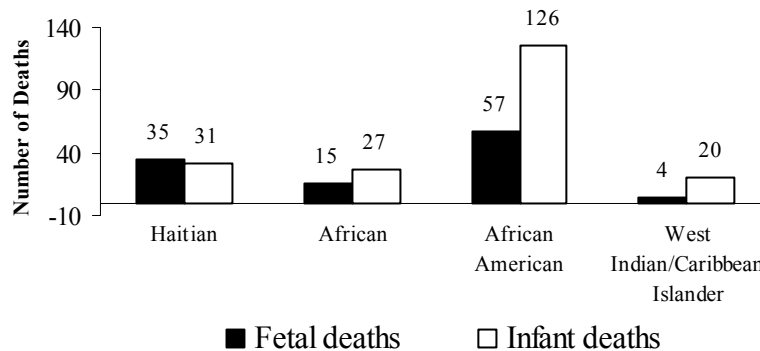
From 1998 through 2000, what were the numbers of fetal and infant deaths among all Black non-Hispanics and ethnic subgroups of Blacks, compared with White, non-Hispanics?

During this 3-year period, there were 151 fetal deaths¹ and 210 infant deaths² of Black non-Hispanics, compared with 547 fetal and 766 infant deaths of White non-Hispanics (Fig. 7.1). Among Blacks, African Americans had the highest numbers of fetal and infant deaths, followed by Haitians, Africans, and West Indian/Caribbean Islanders. (Fig. 7.2).

**Fig 7.1 Number of Fetal and Infant Deaths,
Black non-Hispanics and White non-Hispanics,
Massachusetts: 1998-2000**



**Fig 7.2 Number of Black Fetal and Infant Deaths by
Ethnicity, Massachusetts: 1998-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A7.1).

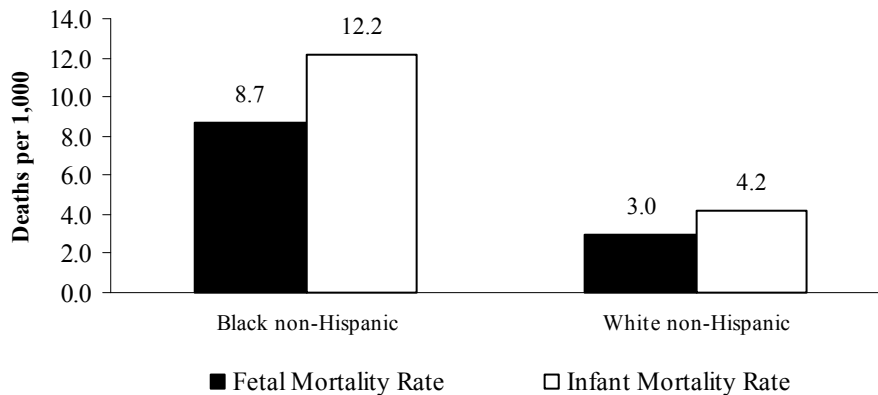
¹ A fetal death is defined here as a stillbirth delivered, extracted, or expelled, of 20 weeks or more gestation, and/or weighing 350 grams or more.

² An infant death is defined here as the death of a child whose age is less than one year.

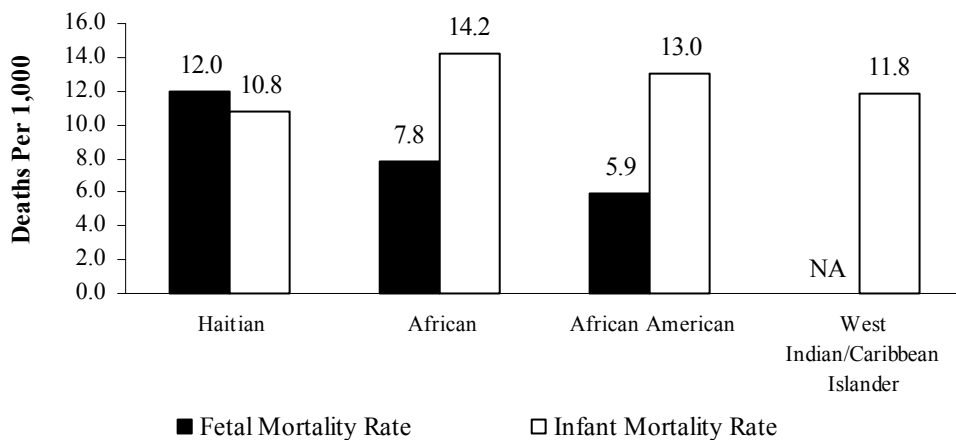
From 1998 through 2000, what were the fetal and infant mortality rates among all Black non-Hispanics and ethnic subgroups of Blacks, compared with White, non-Hispanics?

Both the fetal mortality rate³ and infant mortality rate⁴ were three times higher for Black non-Hispanics than White non-Hispanics (Fig 7.3). Among Blacks, Haitians had the highest fetal mortality rate (12.0), followed by Africans (7.8), and African Americans (5.9). Africans had the highest infant mortality rate (14.2), followed by African Americans (13.0), West Indian/Caribbean Islanders (11.8), and Haitians (10.8) (Fig 7.4). Rates for ethnicity groups should be interpreted with caution due to small numbers of deaths. Confidence intervals are provided in Appendix Table A7.1.

**Fig 7.3 Fetal and Infant Mortality Rates,
Black non-Hispanics and White non-Hispanics,
Massachusetts: 1998-2000**



**Fig 7.4 Black Fetal and Infant Mortality Rates by Ethnicity,
Massachusetts: 1998-2000**

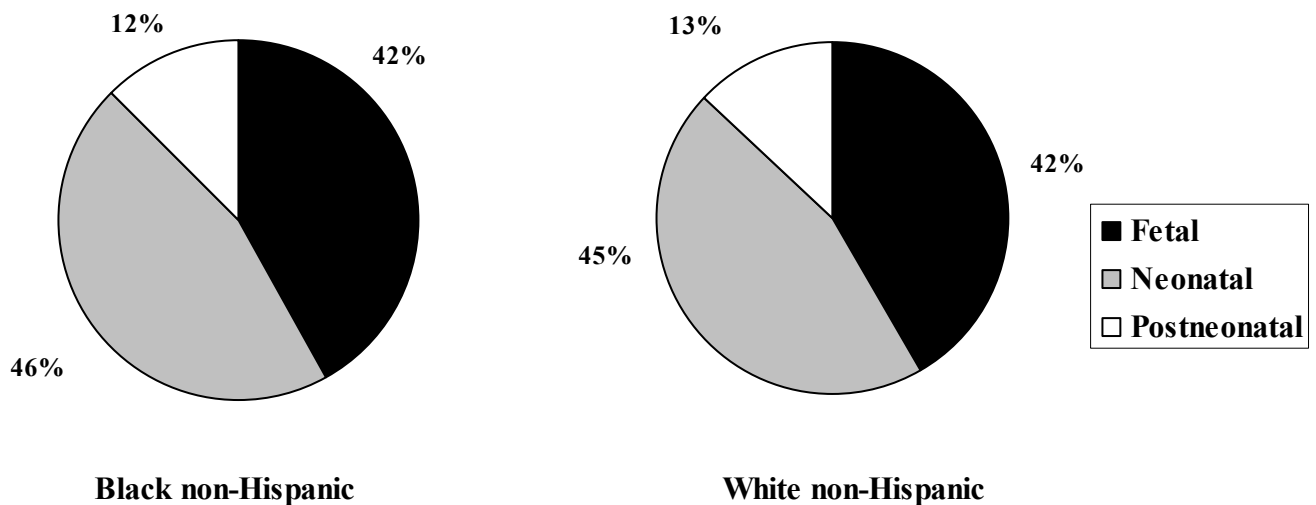


Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A7.1).

How did feto-infant deaths⁵ vary between the two race groups with regard to time period of death?

Out of all fetal and infant deaths between 1998-2000, the proportions of deaths occurring during the fetal period, neonatal period, and postneonatal period were similar for Black non-Hispanics and White non-Hispanics. The majority of deaths occurred during the neonatal period (45-46%), followed closely by the fetal period (42%), and between 12-13% of deaths occurred during the postneonatal period (Fig 7.5).

**Fig 7.5 Percent Distribution of Feto-Infant Deaths⁵
by Time Period of Death⁶, by Race,
Massachusetts: 1998-2000**



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A7.2)

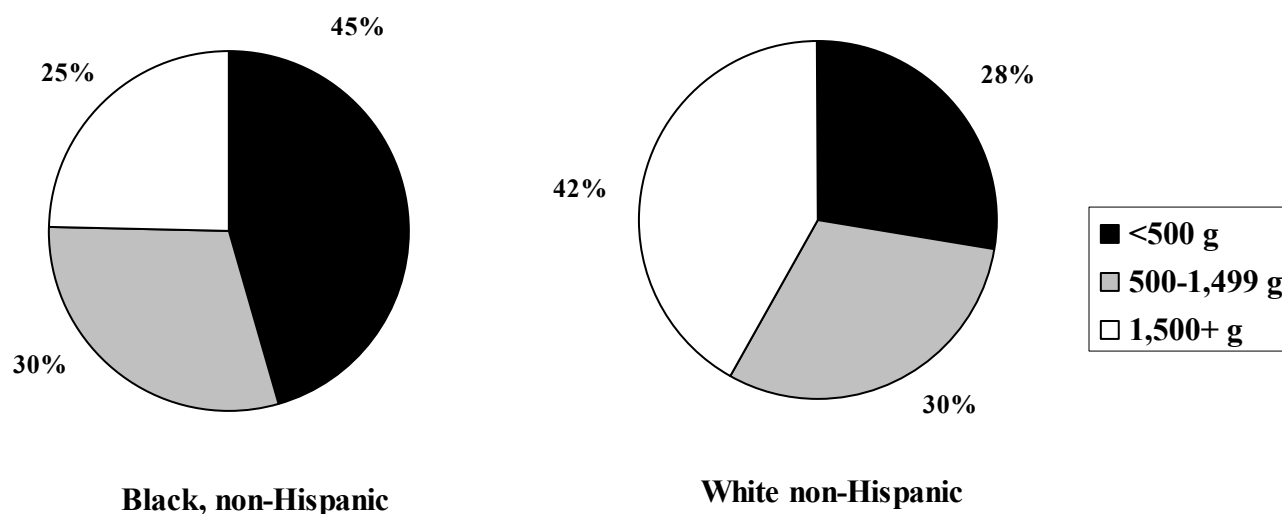
⁵ Feto-infant deaths = total of all fetal and infant deaths combined.

⁶ See Glossary for definitions of fetal, neonatal, and postneonatal.

How did feto-infant deaths⁵ vary between the two race groups with regard to weight⁷ at time of birth or delivery?

The weight distribution of feto-infant deaths varied between Black non-Hispanics and White non-Hispanics. Almost half (45%) of Black non-Hispanic feto-infant deaths weighed under 500 grams, compared with 28% of White non-Hispanics. In contrast, 42% of White non-Hispanic feto-infant deaths weighed over 1,500 grams, compared with 25% of Black non-Hispanics (Fig 7.6).

Fig 7.6 Percent Distribution of Feto-Infant Deaths⁵ by Weight⁷, by Race,
Massachusetts: 1998-2000



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A7.2)

⁵ Feto-infant deaths = total of all fetal and infant deaths combined.

⁷ Weight refers to birth weight for neonatal and postneonatal deaths and weight at time of delivery for fetal deaths.

What is the Perinatal Periods of Risk Model?

The Perinatal Periods of Risk Model developed by Dr. Brian McCarthy and colleagues from the W.H.O. Perinatal Collaborative Center at the Center for Disease Control and Prevention (CDC) examines fetal and infant deaths in developing countries. Recently, this methodology has been adopted in the U.S., particularly in urban settings, to map feto-infant mortality and identify those perinatal periods that offer the greatest opportunities for prevention of mortality within specific sub-populations. Information obtained utilizing this methodology assists programs in designing interventions that prevent fetal and infant mortality.

The following charts present feto-infant mortality rates within the 4 specific “cells” that represent the Perinatal Periods of Risk. The four cells are: “Maternal Health and Prematurity”; “Maternal Care”; “Newborn Care”; and “Infant Health.” (Fig. 7.7) These terms refer to the primary areas of prevention on which a community should focus to reduce the fetal and infant mortality in any particular cell.

**Fig 7.7 Four Cells in the Perinatal Periods of Risk Model
by Time Period of Death⁶ and Weight⁷**

<u>Weight⁷</u>	<u>Time Period of Death⁶</u>		
	Fetal	Neonatal	Postneonatal
< 1,500 g	Maternal Health & Prematurity		
1,500+ g	Maternal Care	Newborn Care	Infant Health

⁶ See Glossary for definitions of fetal, neonatal, and postneonatal.

⁷ Weight refers to birth weight for neonatal and postneonatal deaths and weight at time of delivery for fetal deaths.

What were the fetoinfant mortality rates within each of the perinatal periods of risk for Black non-Hispanics, compared with White non-Hispanics, during 1998-2000 in Massachusetts?

The fetoinfant mortality rate in each of the four “cells” or “periods of risk” in the table below is calculated by dividing the number of fetal and infant deaths occurring in that cell by the total number of live births and fetal deaths in the population, and then multiplying by 1,000.

(answer continued on next page)

Fig 7.8 Feto-Infant Mortality Rates, by Perinatal Periods of Risk and Race, Massachusetts: 1998-2000

Black non-Hispanic

<u>Weight⁷</u>	<u>Perinatal Period</u>		
	Fetal	Neonatal	Postneonatal
<1,500 g	15.5		
1,500+ g	1.8	1.0	2.2

(Total Feto-Infant Mortality Rate⁸ = 15.5 + 1.8 + 1.0 + 2.2 = 20.5)

White non-Hispanic

<u>Weight⁷</u>	<u>Perinatal Period</u>		
	Fetal	Neonatal	Postneonatal
<1,500 g	4.0		
1,500+ g	1.1	1.0	0.8

(Total Feto-Infant Mortality Rate⁸ = 4.0 + 1.1 + 1.0 + 0.8 = 6.9)

Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A7.3).

⁷ Weight refers to birth weight for neonatal and postneonatal deaths and weight at time of delivery for fetal deaths.

⁸ Total fetoinfant mortality rates calculated by adding cell-specific rates are slightly different from the total fetoinfant mortality rates shown in Appendix Table A7.1, since Fig 7.8 excludes those infant and fetal deaths with information missing on birth or delivery weight, or infant age at time of death.

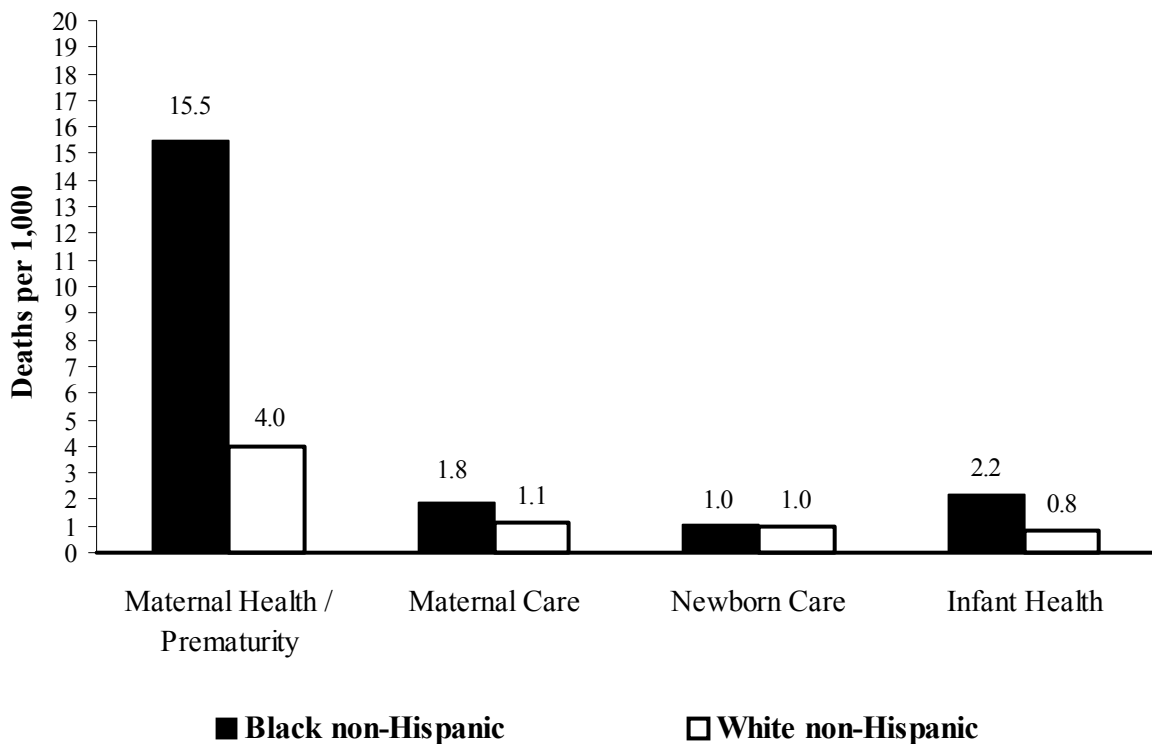
What were the feto-infant mortality rates within each of the perinatal periods of risk for Black non-Hispanics, compared with White non-Hispanics, during 1998-2000 in Massachusetts? (cont.)

The highest feto-infant mortality rate for both Black non-Hispanics and White non-Hispanics occurred in the “Maternal Health and Prematurity” period (refer to Fig 7.7). There were 15.5 Black non-Hispanic fetal and infant deaths per 1,000 fetal deaths and live births attributed to this period, compared with 4.0 for White non-Hispanics. This “period of risk” represents the greatest risk for both race groups, and also represents the period of greatest disparity between the two groups. Mortality attributed to maternal health and prematurity was almost 4 times greater among Black non-Hispanics than White non-Hispanics.

The second highest period of risk for Black non-Hispanics was “Infant Health” (2.2), followed by “Maternal Care” (1.8), and “Newborn Care” (1.0). For White non-Hispanics, the second highest period of risk was “Maternal Care” (1.1), followed by Newborn Care (1.0), and Infant Health (0.8). These data are summarized in Fig 7.9.

Fig 7.9 Feto-Infant Mortality Rates by Perinatal Period of Risk, by Race

Massachusetts, 1998-2000



Source: Massachusetts Department of Public Health, BHSR&E (See Appendix Table A7.3)

APPENDIX I
DETAILED TABLES
FOR CHAPTERS 1-7

**Table A1.1 Hispanic Black Population in Selected Communities
(communities with at least 2,000 black residents): Massachusetts 2000**

(sorted by # of hispanic blacks)

City/Town	Black Hispanics	Total Blacks	Total Population	% Hispanic of Black	% Hispanic of Total
BOSTON	19,166	168,318	589,141	11.4%	3.3%
LAWRENCE	6,914	8,367	72,043	82.6%	9.6%
SPRINGFIELD	6,491	37,373	152,082	17.4%	4.3%
LYNN	3,195	11,719	89,050	27.3%	3.6%
WORCESTER	2,386	13,565	172,648	17.6%	1.4%
BROCKTON	1,662	21,098	94,304	7.9%	1.8%
LOWELL	1,559	5,321	105,167	29.3%	1.5%
HOLYOKE	1,434	2,470	39,838	58.1%	3.6%
NEW BEDFORD	1,373	5,358	93,768	25.6%	1.5%
CHELSEA	1,274	3,354	35,080	38.0%	3.6%
FRAMINGHAM	849	3,958	66,910	21.5%	1.3%
CAMBRIDGE	804	13,054	101,355	6.2%	0.8%
SOMERVILLE	320	5,454	77,478	5.9%	0.4%
FALL RIVER	318	2,502	91,938	12.7%	0.3%
EVERETT	217	2,603	38,037	8.3%	0.6%
WALTHAM	217	2,749	59,226	7.9%	0.4%
MALDEN	209	4,870	56,340	4.3%	0.4%
RANDOLPH	181	6,918	30,963	2.6%	0.6%
QUINCY	144	2,028	88,025	7.1%	0.2%
MEDFORD	117	3,559	55,765	3.3%	0.2%
MILTON	65	2,753	26,062	2.4%	0.2%

Source: Massachusetts Department of Public Health, Bureau of Health Statistics, Research and Evaluation.
Division of Research and Epidemiology. Preliminary Draft Estimate of Census 2000 SF1, Massachusetts Data.

**Table A1.2 Black Population in Selected Communities
(communities with at least 2,000 black residents): Massachusetts 2000**

(ranked by Total Black Population)

City/Town	Black Population	Total Population
BOSTON	168,318	589,141
SPRINGFIELD	37,373	152,082
BROCKTON	21,098	94,304
WORCESTER	13,565	172,648
CAMBRIDGE	13,054	101,355
LYNN	11,719	89,050
LAWRENCE	8,367	72,043
RANDOLPH	6,918	30,963
SOMERVILLE	5,454	77,478
NEW BEDFORD	5,358	93,768
LOWELL	5,321	105,167
MALDEN	4,870	56,340
FRAMINGHAM	3,958	66,910
MEDFORD	3,559	55,765
CHELSEA	3,354	35,080
MILTON	2,753	26,062
WALTHAM	2,749	59,226
EVERETT	2,603	38,037
FALL RIVER	2,502	91,938
HOLYOKE	2,470	39,838
QUINCY	2,028	88,025

Source: Massachusetts Department of Public Health, Bureau of Health Statistics, Research and Evaluation.
Division of Research and Epidemiology. Preliminary Draft Estimate of Census 2000 SF1, Massachusetts Data.

**Table A1.3 Percentage Distribution of the Black Population in Selected Communities
(communities with at least 2,000 Black residents): Massachusetts 2000**

(ranked by% Black)

City/Town	% Black	Total Black	Total Population
BOSTON	28.6	168,318	589,141
SPRINGFIELD	24.6	37,373	152,082
BROCKTON	22.4	21,098	94,304
RANDOLPH	22.3	6,918	30,963
LYNN	13.2	11,719	89,050
CAMBRIDGE	12.9	13,054	101,355
LAWRENCE	11.6	8,367	72,043
MILTON	10.6	2,753	26,062
CHELSEA	9.6	3,354	35,080
MALDEN	8.6	4,870	56,340
WORCESTER	7.9	13,565	172,648
SOMERVILLE	7.0	5,454	77,478
EVERETT	6.8	2,603	38,037
MEDFORD	6.4	3,559	55,765
HOLYOKE	6.2	2,470	39,838
FRAMINGHAM	5.9	3,958	66,910
NEW BEDFORD	5.7	5,358	93,768
LOWELL	5.1	5,321	105,167
WALTHAM	4.6	2,749	59,226
FALL RIVER	2.7	2,502	91,938
QUINCY	2.3	2,028	88,025

Source: Massachusetts Department of Public Health, Bureau of Health Statistics, Research and Evaluation.
Division of Research and Epidemiology. Preliminary Draft Estimate of Census 2000 SF1, Massachusetts Data.

**Table A1.4 Percent Change in the Black Population from 1990 to 2000 for Selected Communities
(Communities with at least 2000 Black Population in either/both 1990 and 2000)**

(sorted by % change)

City/Town	<i>Blacks 90</i>	<i>Blacks 00</i>	% change 90-00
State	327,440	393,283	20.1%
RANDOLPH	2,491	6,918	177.7%
MILTON*	1,224	2,753	124.9%
FALL RIVER*	967	2,502	158.7%
EVERETT*	1,165	2,603	123.4%
QUINCY*	940	2,028	115.7%
MALDEN	2,305	4,870	111.3%
LOWELL	2,870	5,321	85.4%
BROCKTON	13,134	21,098	60.6%
CHELSEA	2,122	3,354	58.1%
WORCESTER	8,613	13,565	57.5%
FRAMINGHAM	2,543	3,958	55.6%
MEDFORD	2,354	3,559	51.2%
WALTHAM*	1,845	2,749	49.0%
LYNN	7,895	11,719	48.4%
SOMERVILLE	4,388	5,454	24.3%
SPRINGFIELD	31,989	37,373	16.8%
BOSTON	157,478	168,318	6.9%
NEW BEDFORD	5,133	5,358	4.4%
HOLYOKE	2,504	2,470	-1.4%
CAMBRIDGE	13,272	13,054	-1.6%
LAWRENCE	9,798	8,367	-14.6%

* Communities that achieved greater than 2000 Black population in 2000.

Source: Massachusetts Department of Public Health, Bureau of Health Statistics, Research and Evaluation.
Division of Research and Epidemiology. Preliminary Draft Estimate of Census 2000 SF1, Massachusetts Data.

Table A1.5 Age Distribution in the Black Population: Massachusetts 2000

Age Group	Black	% Black	White	%White	Total	% Total
1-14	106,429	27.1%	1,094,429	19.2%	1,259,376	19.8%
15-24	65,667	16.7%	704,258	12.4%	820,016	12.9%
25-44	128,970	32.8%	1,757,877	30.9%	1,989,783	31.3%
45-64	67,134	17.1%	1,309,239	23.0%	1,419,760	22.4%
65-74	14,815	3.8%	403,922	7.1%	427,830	6.7%
75-84	7,828	2.0%	303,765	5.3%	315,640	5.0%
85+	2,440	0.6%	113,136	2.0%	116,692	1.8%
Total Population	393,283	100.0%	5,686,626	100.0%	6,349,097	100.0%
Median Age	29.7		38.3		36.5	

Source: Massachusetts Department of Public Health, Bureau of Health Statistics, Research and Evaluation.
Division of Research and Epidemiology. Preliminary Draft Estimate of Census 2000 SF1, Massachusetts Data.

Table A2.1 Distribution of Black Births by Community¹: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ²	African- American	Nigerian	Other African	TOTAL ³
Boston	256	1,515	553	139	501	6,313	240	408	10,226
Springfield	6	6	186	10	36	1,826	5	17	2,159
Brockton	166	420	35	19	29	689	13	57	1,491
Worcester	5	38	49	5	19	464	24	312	977
Lynn	1	122	19	7	23	386	74	74	749
Cambridge	15	221	30	11	18	233	21	90	661
Randolph	6	162	21	4	16	175	48	26	473
Somerville	13	241	10	5	7	81	2	32	405
Malden	8	171	8	4	8	88	23	47	379
New Bedford	133	4	5	3	6	147	3	7	338
Lowell	4	15	6	1	10	113	19	110	296
Medford	4	128	7	5	7	66	8	22	257
Everett	5	134	7	2	3	38	0	21	219
Other towns	124	571	194	51	129	2,314	174	482	4,397
TOTAL	746	3,748	1,130	266	812	12,933	654	1,705	23,027

¹ Cities and towns with 200 or more Black births from 1997-2000.

² Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

³ Totals for each community include all Black births, including ethnicity groups not shown above.

Table A2.2 Distribution of Black Births by Hospital¹: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ²	African- American	Nigerian	Other African	Total Black Births ³	Total Births
Brigham and Women's	131	643	279	65	212	3,274	193	323	5,241	37,322
Boston Medical	62	960	144	34	178	1,863	134	158	3,597	6,833
Beth Israel / Deaconess	56	346	125	39	118	1,730	59	152	2,760	19,940
Baystate	7	8	185	15	35	1,787	7	22	2,118	19,638
New England Medical	41	125	80	16	53	471	12	43	901	6,081
UMASS Memorial	2	33	40	7	16	357	20	245	772	16,280
Mass General	19	126	22	13	33	249	39	80	618	10,458
Brockton	99	129	11	7	8	296	5	20	611	4,972
Good Samaritan	58	163	7	9	5	252	3	20	535	4,395
Cambridge	19	315	14	4	12	90	3	48	527	2,721
St. Elizabeth's	11	206	25	6	19	119	6	54	460	6,536
Mt. Auburn	12	165	20	9	8	99	8	53	386	4,946
St. Vincent	4	20	19	1	8	172	11	97	352	7,670
Beverly	2	59	12	3	14	169	30	28	331	10,115
St. Luke's	129	4	4	3	4	139	2	7	306	6,260
North Shore	1	27	8	5	7	171	14	20	291	6,843
Melrose Wakefield	5	108	12	3	7	64	7	27	243	7,013
Lowell General	5	13	3	0	6	87	16	74	212	8,137
Mercy	0	0	10	0	3	187	0	2	212	3,043
Metrowest	1	15	11	4	3	103	20	35	201	10,001
Leominster	0	12	4	2	8	121	2	25	195	5,664
South Shore	5	31	4	2	6	103	9	8	189	14,427
Charlton Memorial	6	3	5	1	7	132	2	4	172	5,906

(continued on next page)

Table A2.2 (continued) Distribution of Black Births by Hospital¹: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ²	African- American	Nigerian	Other African	Total Black Births ³	Total Births
Newton-Wellesley	7	26	11	5	6	58	7	12	135	14,906
Berkshire	0	0	2	0	1	94	0	11	111	3,159
Cape Cod	9	19	8	0	2	50	0	4	95	3,989
Deaconess / Waltham	0	50	5	0	1	9	1	21	89	1,234
Lawrence	0	11	2	0	6	50	2	5	89	5,156
Holy Family	0	4	2	0	0	37	2	3	81	3,753
Winchester	1	16	4	0	1	30	5	15	79	8,754
Saints Memorial	0	6	2	1	1	29	4	25	78	2,271
Morton	17	2	1	2	0	42	0	3	70	2,731
Cooley-Dickinson	0	2	2	3	3	45	2	9	70	3,610
Home births	2	8	5	0	1	44	1	4	68	898
Emerson	1	4	2	1	3	44	1	5	63	5,783
Other	34	89	40	6	17	366	27	43	769	42,729
TOTAL	746	3,748	1,130	266	812	12,933	654	1,705	23,027	324,174

¹ Hospitals with 60 or more Black births from 1997-2000.

² Selected "Other West Indian/ Caribbean islander" as mother's ancestry on birth certificate.

³ Totals for each community include all Black births, including ethnicity groups not shown above.

Table A2.3 Distribution of Black Births by Boston Neighborhood: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	TOTAL ²
North Dorchester	186	207	157	43	182	1,895	30	71	2,857
Roxbury	23	124	31	14	62	1,401	69	124	1,903
South Dorchester	17	212	126	33	99	976	13	38	1,557
Mattapan	3	283	106	24	56	600	23	18	1,144
Hyde Park	4	340	64	10	35	368	40	34	912
Roslindale	2	111	21	1	16	158	16	15	348
South End	2	11	6	6	5	211	4	17	273
Jamaica Plain	1	22	15	4	12	146	14	16	242
Brighton / Allston	0	60	4	0	8	93	5	25	200
West Roxbury	3	70	0	0	4	91	6	8	185
Back Bay	1	11	7	0	2	83	9	14	133
East Boston	5	14	3	1	8	75	2	10	126
South Boston	3	14	1	0	0	52	1	8	86
Charlestown	1	9	3	0	1	32	1	5	58
West End	0	2	0	0	1	10	1	0	15
North End	0	1	0	0	1	7	0	0	10
TOTAL ³	256	1,515	553	139	501	6,313	240	408	10,226

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

² Totals for each community include all Black births, including ethnicity groups not shown above.

³ Total row includes 193 Black births where neighborhood of residence was unknown.

Table A3.1 Percent Distribution of Mother's Demographic Characteristics by Ethnicity: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	White Non- Hispanic
Number of births	746	3,748	1,130	266	812	12,933	654	1,705	238,704
U.S. born	40.3	4.0	7.1	19.6	16.9	96.2	4.1	2.9	92.2
Non - U.S. born ²	59.7	96.0	92.9	80.4	83.1	3.8	95.9	97.1	7.8
Age, in years									
<18	5.4	1.2	3.3	2.3	1.6	7.3	-- ⁴	0.6	1.3
18-19	9.2	3.2	4.4	6.4	5.5	11.2	-- ⁴	1.6	3.2
20-24	26.5	15.8	23.2	19.2	21.7	26.7	7.2	15.9	11.4
25-29	28.2	24.9	23.3	21.8	24.8	24.5	28.6	30.3	24.9
30-34	20.1	28.6	26.8	28.2	26.2	18.6	42.5	33.0	36.2
35-39	8.0	20.6	15.0	19.2	17.1	9.5	16.7	15.2	19.3
40+	2.5	5.7	4.1	3.0	3.1	2.2	4.0	3.3	3.7
Education completed ³									
less than high school	20.1	10.7	9.4	2.9	7.2	11.8	2.0	9.0	3.7
high school	41.8	35.8	37.0	38.7	36.3	39.1	19.3	37.3	23.9
some college	26.4	39.1	34.8	36.6	36.9	34.6	32.3	32.5	26.9
college graduate	8.6	11.8	14.2	16.0	14.9	10.3	36.8	15.4	31.2
more than college	3.0	2.6	4.6	5.8	4.8	4.2	9.6	5.8	14.3
Marital status									
married	39.1	65.7	44.4	53.8	50.4	27.1	82.6	67.9	81.6
not married	60.9	34.3	55.6	46.2	49.6	72.9	17.4	32.1	18.4
Language preference									
English	75.3	57.2	99.5	100.0	99.3	99.5	92.0	78.7	98.0
Portuguese	22.0	-- ⁴	-- ⁴	0.0	0.0	-- ⁴	0.0	0.9	0.9
Haitian Creole	-- ⁴	39.6	-- ⁴	0.0	-- ⁴	-- ⁴	0.0	-- ⁴	0.0
Other	2.1	3.1	-- ⁴	0.0	-- ⁴	0.4	8.0	20.1	1.2

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.² Outside of the United States and U.S. Territories.³ Women 20 years of age and older.⁴ Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A3.2 Distribution of Mother's Demographic Characteristics by Ethnicity: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	White Non- Hispanic
Number of births	746	3,748	1,130	266	812	12,933	654	1,705	238,704
U.S. born	299	151	80	52	136	12,426	27	49	219,899
Non - U.S. born ²	443	3,594	1,049	213	667	496	625	1,651	18,640
Age, in years									
<18	40	44	37	6	13	943	3	11	3,193
18-19	69	121	50	17	45	1,444	4	28	7,616
20-24	198	592	262	51	176	3,454	47	271	27,245
25-29	210	933	263	58	201	3,175	187	517	59,461
30-34	150	1,072	303	75	213	2,407	278	562	86,447
35-39	60	773	169	51	139	1,227	109	260	45,968
40+	19	213	46	8	25	283	26	56	8,773
Education completed ³									
less than high school	128	384	98	7	54	1,244	13	150	8,372
high school	266	1,279	386	94	274	4,118	125	619	54,380
some college	168	1,397	363	89	278	3,640	209	540	61,367
college graduate	55	421	148	39	112	1,082	238	256	71,011
more than college	19	94	48	14	36	445	62	96	32,636
Marital status									
married	292	2,462	502	143	409	3,504	540	1,158	194,657
not married	454	1,286	628	123	403	9,428	114	547	44,015
Language preference									
English	562	2,145	1,124	266	806	12,868	602	1,341	233,802
Portuguese	164	2	1	0	0	4	0	16	2,112
Haitian Creole	4	1,483	2	0	3	3	0	4	5
Other	16	118	3	0	3	58	52	343	2,766

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

² Outside of the United States and U.S. Territories.

³ Women 20 years of age and older.

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table A3.3 Percent Distribution of Demographic Characteristics for Mothers Reporting "Other African" Ethnicity, by Birthplace: Massachusetts 1997-2000

BIRTHPLACE:	<u>"OTHER AFRICAN"</u>						White Non- Hispanic
	Ghana	Ethiopia	Liberia	Somalia	Kenya	Uganda	
Number of births	334	189	142	164	149	120	238,704
Age, in years							
<18	0.0	0.0	-- ²	-- ²	0.0	0.0	1.3
18-19	1.5	0.0	4.9	3.0	0.0	-- ²	3.2
20-24	12.3	15.3	23.2	18.9	13.4	15.0	11.4
25-29	28.4	30.2	16.2	31.7	37.6	31.7	24.9
30-34	38.3	33.9	33.1	28.0	37.6	37.5	36.2
35-39	16.2	18.0	19.7	11.0	10.1	11.7	19.3
40+	3.3	2.6	-- ²	6.1	-- ²	-- ²	3.7
Education completed ¹							
less than high school	8.5	10.6	8.3	26.6	-- ²	-- ²	3.7
high school	48.0	48.4	44.4	42.9	19.5	20.2	23.9
some college	29.2	24.5	23.3	19.5	56.4	46.2	26.9
college graduate	10.3	13.8	17.3	9.1	16.1	21.0	31.2
more than college	4.0	2.7	6.8	-- ²	7.4	9.2	14.3
Marital status							
married	69.5	84.7	53.5	82.3	53.0	58.3	81.6
not married	30.5	15.3	46.5	17.7	47.0	41.7	18.4
Language preference							
English	96.7	51.3	98.6	44.5	96.0	90.0	98.0
Other	3.3	48.7	-- ²	55.5	4.0	10.0	2.0

¹ Women 20 years of age and older.

² Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A3.4 Distribution of Demographic Characteristics for Mothers Reporting "Other African" Ethnicity, by Birthplace: Massachusetts 1997-2000

<u>"OTHER AFRICAN"</u>							
BIRTHPLACE:	Ghana	Ethiopia	Liberia	Somalia	Kenya	Uganda	White Non- Hispanic
Number of births	334	189	142	164	149	120	238,704
Age, in years							
<18	0	0	2	2	0	0	3,193
18-19	5	0	7	5	0	1	7,616
20-24	41	29	33	31	20	18	27,245
25-29	95	57	23	52	56	38	59,461
30-34	128	64	47	46	56	45	86,447
35-39	54	34	28	18	15	14	45,968
40+	11	5	2	10	2	4	8,773
Education completed ¹							
less than high school	28	20	11	41	1	4	8,372
high school	158	91	59	66	29	24	54,380
some college	96	46	31	30	84	55	61,367
college graduate	34	26	23	14	24	25	71,011
more than college	13	5	9	3	11	11	32,636
Marital status							
married	232	160	76	135	79	70	194,657
not married	102	29	66	29	70	50	44,015
Language preference							
English	323	97	140	73	143	108	233,802
Other	11	92	2	91	6	12	4,883

¹ Women 20 years of age and older.

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table A4.1 Percent Distribution of Maternal Risk Factors by Ethnicity: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	White Non- Hispanic
Number of births	746	3,748	1,130	266	812	12,933	654	1,705	238,704
Parity									
1	40.5	38.6	38.7	47.4	40.0	38.5	34.1	43.6	44.2
2-3	47.5	50.3	49.6	40.2	47.8	46.3	48.5	44.5	49.6
4+	11.9	11.1	11.7	12.4	12.2	15.3	17.4	11.9	6.2
Smoking prior to pregnancy									
yes	13.7	2.1	4.3	6.0	5.9	22.0	1.7	1.8	20.9
no	86.3	97.9	95.7	94.0	94.1	78.0	98.3	98.2	79.1
Smoking during pregnancy									
yes	8.3	1.1	1.8	3.8	3.0	15.5	-- ⁵	0.8	12.3
no	91.7	98.9	98.2	96.2	97.0	84.5	99.4	99.2	87.7
Cesarean section ²									
yes	20.3	27.2	23.1	25.9	21.7	21.5	29.6	27.7	22.2
no	79.7	72.8	76.9	74.1	78.3	78.5	70.4	72.3	77.8
Maternal conditions									
anemia	3.8	7.6	6.0	4.9	6.4	7.5	5.5	3.8	1.3
hypertension ³	2.7	5.9	6.9	6.0	6.9	5.6	7.7	5.1	4.0
diabetes ⁴	1.9	7.0	7.3	6.4	5.3	4.2	4.9	4.2	2.9
hepatitis B carrier	0.9	1.1	-- ⁵	0.0	-- ⁵	0.3	1.1	1.5	0.1
eclampsia	1.3	2.4	2.4	-- ⁵	2.1	2.2	3.5	2.0	0.8
Previous preterm or small for gestational age infant									
yes	1.3	1.2	0.8	2.3	1.0	2.1	0.9	0.6	0.8
no	98.7	98.8	99.2	97.7	99.0	97.9	99.1	99.4	99.2

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

² Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

³ Includes both chronic and pregnancy-related hypertension.

⁴ Includes both gestational and other diabetes.

⁵ Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A4.2 Distribution of Maternal Risk Factors by Ethnicity: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	White Non- Hispanic
Number of births	746	3,748	1,130	266	812	12,933	654	1,705	238,704
Parity									
1	302	1,445	437	126	324	4,968	223	741	104,897
2-3	354	1,879	560	107	388	5,974	317	757	117,784
4+	89	415	132	33	99	1,970	114	202	14,631
Smoking prior to pregnancy									
yes	102	80	49	16	48	2,847	11	30	49,797
no	643	3,668	1,081	250	764	10,075	643	1,674	188,742
Smoking during pregnancy									
yes	62	41	20	10	24	2,009	4	14	29,392
no	683	3,707	1,109	256	788	10,915	650	1,690	209,142
Cesarean section ²									
yes	151	1,019	260	69	176	2,767	193	469	52,708
no	593	2,723	864	197	635	10,124	459	1,227	184,488
Maternal conditions									
anemia	28	285	67	13	52	961	36	64	3,183
hypertension ³	20	219	78	16	56	725	50	87	9,324
diabetes ⁴	14	262	82	17	43	541	32	72	6,945
hepatitis B carrier	7	41	3	0	4	33	7	26	177
eclampsia	10	89	27	1	17	278	23	34	1,843
Previous preterm or small for gestational age infant									
yes	10	43	9	6	8	274	6	10	1,954
no	732	3,696	1,115	259	803	12,612	645	1,687	234,047

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

² Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

³ Includes both chronic and pregnancy-related hypertension.

⁴ Includes both gestational and other diabetes.

Table A4.3 Percent Distribution of Maternal Risk Factors for Mothers Reporting "Other African" Ethnicity, by Birthplace: Massachusetts 1997-2000

BIRTHPLACE:	"OTHER AFRICAN"						White Non- Hispanic
	Ghana	Ethiopia	Liberia	Somalia	Kenya	Uganda	
Number of births	334	189	142	164	149	120	238,704
Parity							
1	42.2	48.1	35.9	30.7	57.0	54.2	44.2
2-3	47.9	47.1	43.7	38.7	39.6	36.7	49.6
4+	9.9	4.8	20.4	30.7	3.4	9.2	6.2
Smoking prior to pregnancy							
yes	-- ⁴	-- ⁴	-- ⁴	0.0	-- ⁴	0.0	20.9
no	99.7	99.5	97.9	100.0	98.7	100.0	79.1
Smoking during pregnancy							
yes	0.0	-- ⁴	-- ⁴	0.0	-- ⁴	0.0	12.3
no	100.0	99.5	97.9	100.0	99.3	100.0	87.7
Cesarean section ¹							
yes	30.2	24.5	29.1	22.0	32.2	29.2	22.2
no	69.8	75.5	70.9	78.0	67.8	70.8	77.8
Maternal conditions							
anemia	-- ⁴	4.2	3.5	6.7	-- ⁴	-- ⁴	1.3
hypertension ²	6.0	4.8	7.8	3.7	-- ⁴	5.8	4.0
diabetes ³	6.0	6.9	3.5	5.5	-- ⁴	-- ⁴	2.9
hepatitis B carrier	3.0	-- ⁴	-- ⁴	0.0	0.0	-- ⁴	0.1
eclampsia	1.5	-- ⁴	-- ⁴	6.1	-- ⁴	0.0	0.8
Previous preterm or small for gestational age infant							
yes	-- ⁴	-- ⁴	-- ⁴	0.0	-- ⁴	-- ⁴	0.8
no	99.7	100.0	98.6	100.0	99.3	99.2	99.2

¹ Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

² Includes both chronic and pregnancy-related hypertension.

³ Includes both gestational and other diabetes.

⁴ Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A4.4 Distribution of Maternal Risk Factors for Mothers Reporting "Other African" Ethnicity, by Birthplace: Massachusetts 1997-2000

BIRTHPLACE:	"OTHER AFRICAN"						White Non- Hispanic
	Ghana	Ethiopia	Liberia	Somalia	Kenya	Uganda	
Number of births	334	189	142	164	149	120	238,704
Parity							
1	141	91	51	50	85	65	104,897
2-3	160	89	62	63	59	44	117,784
4+	33	9	29	50	5	11	14,631
Smoking prior to pregnancy							
yes	1	1	3	0	2	0	49,797
no	333	188	139	164	147	120	188,742
Smoking during pregnancy							
yes	0	1	3	0	1	0	29,392
no	334	188	139	164	148	120	209,142
Cesarean section ¹							
yes	101	46	41	36	48	35	52,708
no	233	142	100	128	101	85	184,488
Maternal conditions							
anemia	4	8	5	11	3	2	3,183
hypertension ²	20	9	11	6	2	7	9,324
diabetes ³	20	13	5	9	4	3	6,945
hepatitis B carrier	10	3	1	0	0	2	177
eclampsia	5	3	4	10	2	0	1,843
Previous preterm or small for gestational age infant							
yes	1	0	2	0	1	1	1,954
no	333	189	139	164	148	119	234,047

¹ Includes both primary and repeat Cesarean sections. Excludes those with unknown mode of delivery.

² Includes both chronic and pregnancy-related hypertension.

³ Includes both gestational and other diabetes.

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

**Table A5.1 Percent Distribution of Prenatal and Postnatal Care Characteristics of Mothers by Ethnicity:
Massachusetts 1997-2000**

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	White Non- Hispanic
Number of births	746	3,748	1,130	266	812	12,933	654	1,705	238,704
Adequate prenatal care ²	64.5	65.8	71.7	74.2	69.7	67.1	68.5	65.6	83.4
Payment source ³									
private	42.0	46.7	53.3	60.5	48.8	37.5	54.9	49.2	82.3
public	55.3	51.0	44.3	38.0	49.7	61.2	43.0	46.5	16.3
self	1.7	1.8	1.9	-- ⁵	1.1	0.6	1.5	3.2	0.5
Site of care									
physician's office	59.9	35.7	38.2	45.6	35.6	40.2	43.9	44.1	83.8
hospital clinic	20.3	33.8	31.0	26.2	32.2	31.2	33.6	34.0	7.2
community health center	13.6	17.3	15.3	13.7	19.7	15.8	9.5	10.2	1.8
HMO/other	6.2	13.2	15.6	14.4	12.5	12.7	12.9	11.7	7.2
Breastfeeding ⁴									
yes	69.4	81.7	83.3	84.9	84.8	58.8	88.3	88.2	71.1
no	30.6	18.3	16.7	15.1	15.2	41.2	11.7	11.8	28.9
Pediatric provider named									
yes	91.8	93.0	93.1	92.9	91.4	89.9	94.2	93.2	97.3
no	8.2	7.0	6.9	7.1	8.6	10.1	5.8	6.8	2.7

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

² Adequate prenatal care: See technical notes for definition of adequacy of care.

³ Payment source:

Private = Commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA, and other), or other private insurance

Public = Government programs including Commonhealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care); or free care

Self = Self-pay

⁴ Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

⁵ Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

**Table A5.2 Distribution of Prenatal and Postnatal Care Characteristics of Mothers by Ethnicity:
Massachusetts 1997-2000**

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	White Non- Hispanic
Number of births	746	3,748	1,130	266	812	12,933	654	1,705	238,704
Adequate prenatal care ²	475	2,436	805	193	560	8,568	443	1,108	197,279
Payment source ³									
private	313	1,745	601	161	395	4,838	359	837	194,573
public	412	1,907	500	101	402	7,895	281	790	38,550
self	13	67	21	1	9	78	10	54	1,264
Site of care									
physician's office	442	1,325	424	120	287	5,135	286	742	196,595
hospital clinic	150	1,253	344	69	260	3,979	219	571	16,844
community health center	100	643	170	36	159	2,021	62	172	4,307
HMO/other	46	490	173	38	101	1,623	84	196	16,877
Breastfeeding ⁴									
yes	515	3,041	935	225	686	7,537	573	1,496	167,991
no	227	680	187	40	123	5,285	76	201	68,319
Pediatric provider named									
yes	685	3,486	1,052	247	742	11,627	616	1,589	232,320
no	61	262	78	19	70	1,306	38	116	6,384

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

² Adequate prenatal care: See technical notes for definition of adequacy of care.

³ Payment source:

Private = Commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA, and other), or other private insurance

Public = Government programs including Commonhealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care); or free care

Self = Self-pay

⁴ Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

Table A5.3 Percent Distribution of Prenatal and Postnatal Care Characteristics of Mothers Reporting "Other African" Ethnicity, by Birthplace: Massachusetts 1997-2000

BIRTHPLACE:	"OTHER AFRICAN"						White Non- Hispanic
	Ghana	Ethiopia	Liberia	Somalia	Kenya	Uganda	
Number of births	334	189	142	164	149	120	238,704
Adequate prenatal care ¹	64.9	70.1	67.6	73.5	60.1	55.5	83.4
Payment source ²							
private	54.2	50.8	49.6	34.5	57.7	45.8	82.3
public	42.2	44.4	46.8	63.6	36.9	43.3	16.3
self	2.4	4.2	-- ⁴	-- ⁴	-- ⁴	10.8	0.5
Site of care							
physician's office	47.6	37.8	50.0	30.2	53.7	44.4	83.8
hospital clinic	27.4	47.0	30.7	53.7	25.2	41.9	7.2
community health center	13.0	5.4	10.7	9.9	9.5	6.8	1.8
HMO/other	12.0	9.7	8.6	6.2	11.6	6.8	7.2
Breastfeeding ³							
yes	92.8	92.0	77.3	90.9	91.2	88.3	71.1
no	7.2	8.0	22.7	9.1	8.8	11.7	28.9
Pediatric provider named							
yes	97.0	83.1	96.5	97.6	94.0	94.2	97.3
no	3.0	16.9	3.5	-- ⁴	6.0	5.8	2.7

¹Adequate prenatal care: See technical notes for definition of adequacy of care.

²Payment source:

Private = Commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA, and other), or other private insurance

Public = Government programs including Commonwealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care); or free care

Self = Self-pay

³ Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

⁴ Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A5.4 Distribution of Prenatal and Postnatal Care Characteristics of Mothers Reporting "Other African" Ethnicity, by Birthplace: Massachusetts 1997-2000

BIRTHPLACE:	"OTHER AFRICAN"						White Non- Hispanic
	Ghana	Ethiopia	Liberia	Somalia	Kenya	Uganda	
Number of births	334	189	142	164	149	120	238,704
Adequate prenatal care ¹	216	131	96	119	89	66	197,279
Payment source ²							
private	181	96	70	57	86	55	194,573
public	141	84	66	105	55	52	38,550
self	8	8	3	2	4	13	1,264
Site of care							
physician's office	158	70	70	49	79	52	196,595
hospital clinic	91	87	43	87	37	49	16,844
community health center	43	10	15	16	14	8	4,307
HMO/other	40	18	12	10	17	8	16,877
Breastfeeding ³							
yes	309	173	109	149	135	106	167,991
no	24	15	32	15	13	14	68,319
Pediatric provider named							
yes	324	157	137	160	140	113	232,320
no	10	32	5	4	9	7	6,384

¹ Adequate prenatal care: See technical notes for definition of adequacy of care.

² Payment source:

Private = Commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA, and other), or other private insurance

Public = Government programs including Commonwealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care); or free care

Self = Self-pay

³ Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table A6.1 Percent Distribution of Infant Characteristics by Mother's Ethnicity: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	White Non- Hispanic
Number of births	746	3,748	1,130	266	812	12,933	654	1,705	238,704
Birthweight (g)									
< 1,500	1.5	3.0	2.7	3.4	3.6	3.4	1.8	3.4	1.1
1,500 - 2,499	7.0	7.6	8.2	8.3	6.7	9.6	7.2	6.2	5.1
2,500 - 3,999	83.1	80.4	80.3	82.0	82.4	80.2	74.4	82.4	80.3
4,000+	8.5	9.0	8.8	6.4	7.4	6.9	16.5	8.0	13.5
Gestational age (weeks)									
< 32	1.5	3.1	2.7	3.4	3.9	3.6	2.0	3.4	1.2
32 - 36	5.6	7.1	8.6	10.2	7.6	9.3	8.4	6.4	5.9
37 - 42	92.7	89.4	88.6	86.1	88.3	87.0	89.4	89.9	92.8
43+	-- ²	0.3	-- ²	-- ²	-- ²	0.2	-- ²	0.4	0.2
Singleton birth	98.0	97.0	96.5	95.9	96.8	96.1	93.1	95.1	95.5
Multiple birth	2.0	3.0	3.5	4.1	3.2	3.9	6.9	4.9	4.5
Sex of infant: female	49.1	49.9	48.8	48.5	50.6	49.4	48.0	49.7	48.8
Abnormal conditions of newborn	12.3	20.2	23.0	19.9	21.3	23.0	22.2	18.1	12.0
jaundice	6.2	6.5	8.8	8.7	6.7	7.6	7.6	6.4	4.5

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

² Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A6.2 Distribution of Infant Characteristics by Mother's Ethnicity: Massachusetts 1997-2000

	Cape Verdean	Haitian	Jamaican	Barbadian	Other West Indian/ Caribbean ¹	African- American	Nigerian	Other African	White Non- Hispanic
Number of births	746	3,748	1,130	266	812	12,933	654	1,705	238,704
Birthweight (g)									
< 1,500	11	113	31	9	29	434	12	58	2,569
1,500 - 2,499	52	285	92	22	54	1,241	47	106	12,215
2,500 - 3,999	618	3,008	906	218	668	10,351	486	1,402	190,598
4,000+	63	336	99	17	60	888	108	136	32,013
Gestational age (weeks)									
< 32	11	116	30	9	32	459	13	57	2,793
32 - 36	41	266	97	27	62	1,192	55	109	13,904
37 - 42	683	3,337	998	229	717	11,199	583	1,526	219,555
43+	2	13	1	1	1	27	1	6	385
Singleton birth	731	3,636	1,090	255	786	12,433	609	1,622	228,024
Multiple birth	15	112	40	11	26	500	45	83	10,680
Sex of infant: female	366	1,870	552	129	411	6,385	314	847	116,432
Abnormal conditions of newborn	92	757	260	53	173	2,977	145	308	28,644
jaundice	46	242	98	23	54	966	49	108	10,716

¹ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table A6.3 Percent Distribution of Infant Characteristics of Mothers Reporting "Other African" Ethnicity, by Birthplace: Massachusetts 1997-2000

BIRTHPLACE:	"OTHER AFRICAN"						White Non- Hispanic
	Ghana	Ethiopia	Liberia	Somalia	Kenya	Uganda	
Number of births	334	189	142	164	149	120	238,704
Birthweight (g)							
< 1,500	5.1	-- ¹	4.2	-- ¹	-- ¹	-- ¹	1.1
1,500 - 2,499	7.2	7.9	9.9	6.1	4.0	-- ¹	5.1
2,500 - 3,999	79.9	80.4	78.2	84.0	87.2	86.7	80.3
4,000+	7.8	10.1	7.7	8.0	6.0	7.5	13.5
Gestational age (weeks)							
< 32	4.5	-- ¹	4.3	-- ¹	-- ¹	-- ¹	1.2
32 - 36	6.9	6.4	10.6	6.7	3.4	-- ¹	5.9
37 - 42	88.0	91.5	85.1	90.2	94.0	94.2	92.8
43+	-- ¹	0.0	0.0	-- ¹	0.0	0.0	0.2
Singleton birth	94.6	95.8	94.4	95.1	96.0	95.0	95.5
Multiple birth	5.4	4.2	5.6	4.9	4.0	4.1	4.5
Sex of infant: female	47.6	49.7	57.0	47.6	51.7	42.1	48.8
Abnormal conditions of newborn	18.3	14.8	22.5	20.7	14.1	15.7	12.0
jaundice	6.6	8.0	5.7	12.9	3.4	4.2	4.5

¹ Percentages based on fewer than five events are excluded.

Note: Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A6.4 Distribution of Infant Characteristics of Mothers Reporting "Other African" Ethnicity, by Birthplace: Massachusetts 1997-2000

BIRTHPLACE:	"OTHER AFRICAN"						White Non- Hispanic
	Ghana	Ethiopia	Liberia	Somalia	Kenya	Uganda	
Number of births	334	189	142	164	149	121	238,704
Birthweight (g)							
< 1,500	17	3	6	3	4	4	2,569
1,500 - 2,499	24	15	14	10	6	3	12,215
2,500 - 3,999	267	152	111	137	130	104	190,598
4,000+	26	19	11	13	9	9	32,013
Gestational age (weeks)							
< 32	15	4	6	2	4	4	2,793
32 - 36	23	12	15	11	5	3	13,904
37 - 42	294	172	120	148	140	113	219,555
43+	2	0	0	3	0	0	385
Singleton birth	316	181	134	156	143	115	228,024
Multiple birth	18	8	8	8	6	5	10,680
Sex of infant: female	159	94	81	78	77	51	116,432
Abnormal conditions of newborn	61	28	32	34	21	19	28,644
jaundice	22	15	8	21	5	5	10,716

Note: Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

**Table A6.5 Number and Percent Low Birthweight by Ethnicity:
Massachusetts 1997-2000**

Race/ethnic group	<u>Birthweight</u>			
	<1,500 ¹ (g)		<2,500 ² (g)	
	Percent	Number	Percent	Number
Total Black³	3.2	736	11.8	2,722
Cape Verdean	1.5	11	8.5	63
Haitian	3.0	113	10.6	398
Jamaican	2.7	31	10.9	123
Barbadian	3.4	9	11.7	31
Other West Indian/Caribbean ⁴	3.6	29	10.2	83
African-American	3.4	434	13.0	1,675
Nigerian	1.8	12	9.0	59
Other African	3.4	58	9.6	164
Other African by Mother's Birthplace:				
Ghana	5.3	18	12.5	42
Ethiopia	-- ⁵	3	10.4	21
Liberia	4.1	6	13.7	20
Somalia	-- ⁵	3	7.8	14
Kenya	-- ⁵	4	6.9	11
Uganda	-- ⁵	4	5.8	7
White non-Hispanic	1.1	2,569	6.2	14,784

¹ An infant weighing less than 1,500 grams (3.3 lbs) at birth is defined as very low birthweight.

² An infant weighing less than 2,500 grams (5.5 lbs) at birth is defined as low birthweight.

³ 'Total Black' category includes all births to Black mothers, including ethnicity groups not included in this table.

⁴ Selected "Other West Indian/ Caribbean Islander" as mother's ancestry on birth certificate.

⁵ Percentages based on fewer than five events are excluded.

Table A6.6 Percent Distribution of Low Birthweight Infants by Demographic Characteristics of Mothers by Ethnicity: Massachusetts 1997-2000

	Haitian	Jamaican	West Indian/ Caribbean ¹	African- American	African ²	White Non- Hispanic
Low birthweight infants ³	398	123	114	1,675	223	14,784
U.S. born	4.8	8.9	23.7	96.2	2.7	93.0
Non - U.S. born ⁴	95.2	91.1	76.3	3.8	97.3	7.0
Age, in years						
<18	-- ⁶	-- ⁶	-- ⁶	7.5	0.0	1.7
18-19	3.3	-- ⁶	-- ⁶	9.4	-- ⁶	3.6
20-24	18.1	22.8	21.1	22.4	13.0	11.0
25-29	19.1	19.5	21.9	22.9	24.7	22.8
30-34	25.6	30.1	23.7	22.5	36.3	33.9
35-39	25.1	19.5	22.8	12.4	19.3	21.8
40+	7.8	-- ⁶	4.4	2.9	4.9	5.2
Education completed ⁵						
less than high school	11.8	12.8	10.3	14.3	5.5	5.7
high school	33.3	34.2	38.3	39.9	32.4	26.8
some college	42.3	35.9	34.6	33.3	35.6	25.9
college graduate	10.5	14.5	12.1	8.9	22.4	27.9
more than college	2.1	-- ⁶	4.7	3.5	4.1	13.8
Marital status						
married	64.1	46.3	49.1	25.7	67.7	77.3
not married	35.9	53.7	50.9	74.3	32.3	22.7
Language preference						
English	60.3	100.0	99.1	99.5	83.9	98.1
Portuguese	0.0	0.0	0.0	0.0	-- ⁶	0.8
Haitian Creole	35.7	0.0	0.0	-- ⁶	-- ⁶	-- ⁶
Other	4.0	0.0	-- ⁶	0.4	14.8	1.1

¹ Includes ethnicities listed as "Barbadian" and "Other West Indian/ Caribbean Islander" in previous tables.

² Includes ethnicities listed as "Nigerian" and "Other African" in previous tables.

³ Includes infants weighing less than 2,500 grams (5.5 lbs) at birth.

⁴ Outside of the United States and U.S. Territories.

⁵ Women 20 years of age and older.

⁶ Percentages based on fewer than five events are excluded.

Note: Groups with fewer than 100 low birthweight infants are excluded.

Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A6.7. Number of Low Birthweight Infants by Demographic Characteristics of Mothers by Ethnicity: Massachusetts 1997-2000

	Haitian	Jamaican	West Indian/ Caribbean ¹	African- American	African ²	White Non- Hispanic
Low birthweight infants ³	398	123	114	1,675	223	14,784
U.S. born	19	11	27	1,610	6	13,726
Non - U.S. born ⁴	379	112	87	63	217	1,037
Age, in years						
<18	4	3	3	126	0	251
18-19	13	3	4	158	4	532
20-24	72	28	24	375	29	1,621
25-29	76	24	25	383	55	3,371
30-34	102	37	27	377	81	5,008
35-39	100	24	26	207	43	3,225
40+	31	4	5	49	11	776
Education completed ⁵						
less than high school	45	15	11	199	12	793
high school	127	40	41	554	71	3,753
some college	161	42	37	462	78	3,619
college graduate	40	17	13	123	49	3,898
more than college	8	3	5	49	9	1,927
Marital status						
married	255	57	56	431	151	11,421
not married	143	66	58	1,244	72	3,359
Language preference						
English	240	123	113	1,667	187	14,495
Portugese	0	0	0	0	2	124
Haitian Creole	142	0	0	1	1	2
Other	16	0	1	7	33	159

¹ Includes ethnicities listed as "Barbadian" and "Other West Indian/ Caribbean Islander" in previous tables.

² Includes ethnicities listed as "Nigerian" and "Other African" in previous tables.

³ Includes infants weighing less than 2,500 grams (5.5 lbs) at birth.

⁴ Outside of the United States and U.S. Territories.

⁵ Women 20 years of age and older.

Note: Groups with fewer than 100 low birthweight infants are excluded.

Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table A6.8 Percent Distribution of Low Birthweight Infants by Maternal Risk Factors by Ethnicity: Massachusetts 1997-2000

	Haitian	Jamaican	West Indian/ Caribbean ¹	African- American	African ²	White Non- Hispanic
Low birthweight infants ³	398	123	114	1,675	223	14,784
Parity						
1	40.7	47.2	43.4	37.9	44.8	46.9
2-3	50.3	42.3	42.5	43.6	41.2	45.9
4+	9.0	10.6	14.2	18.5	14.0	7.2
Smoking prior to pregnancy						
yes	1.8	4.1	7.9	26.7	3.1	26.3
no	98.2	95.9	92.1	73.3	96.9	73.7
Smoking during pregnancy						
yes	1.3	0.0	5.3	20.4	-- ⁵	19.3
no	98.7	100.0	94.7	79.6	98.7	80.7
Cesarean section ⁴	43.7	43.9	39.5	37.2	40.3	43.5
Previous preterm or small for gestational age infant						
yes	3.0	-- ⁵	-- ⁵	6.0	-- ⁵	2.6
no	97.0	96.7	97.3	94.0	99.5	97.4

¹ Includes ethnicities listed as "Barbadian" and "Other West Indian/ Caribbean Islander" in previous tables.

² Includes ethnicities listed as "Nigerian" and "Other African" in previous tables.

³ Includes infants weighing less than 2,500 grams (5.5 lbs) at birth.

⁴ Includes both primary and repeat Caesarean sections. Excludes those with unknown mode of delivery.

⁵ Percentages based on fewer than five events are excluded.

Note: Groups with fewer than 100 low birthweight infants are excluded.

Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

**Table A6.9 Number of Low Birthweight Infants by Maternal Risk Factors by Ethnicity:
Massachusetts 1997-2000**

	Haitian	Jamaican	West Indian/ Caribbean ¹	African- American	African ²	White Non- Hispanic
Low birthweight infants ³	398	123	114	1,675	223	14,784
Parity						
1	162	58	49	634	99	6,916
2-3	200	52	48	730	91	6,774
4+	36	13	16	310	31	1,069
Smoking prior to pregnancy						
yes	7	5	9	447	7	3,884
no	391	118	105	1,227	216	10,874
Smoking during pregnancy						
yes	5	0	6	341	3	2,844
no	393	123	108	1,333	220	11,915
Cesarean section ⁴	174	54	45	621	89	6,422
Previous preterm or small for gestational age infant						
yes	12	4	3	100	1	384
no	386	119	110	1,568	217	14,261

¹ Includes ethnicities listed as "Barbadian" and " Other West Indian/ Caribbean Islander" in previous tables.

² Includes ethnicities listed as "Nigerian" and "Other African" in previous tables.

³ Includes infants weighing less than 2,500 grams (5.5 lbs) at birth.

⁴ Includes both primary and repeat Caesarean sections. Excludes those with unknown mode of delivery.

Note: Groups with fewer than 100 low birthweight infants are excluded.

Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table A6.10 Percent Distribution of Low Birthweight Infants by Prenatal and Postnatal Care Characteristics of Mother by Ethnicity: Massachusetts 1997-2000

	Haitian	Jamaican	West Indian/ Caribbean ¹	African- American	African ²	White Non- Hispanic
Low birthweight infants ³	398	123	114	1,675	223	14,784
Adequacy of prenatal care ⁴	71.0	72.5	70.5	63.5	69.7	79.3
Payment source ⁵						
private	44.3	52.0	53.5	35.7	53.4	78.9
public	51.9	43.9	44.7	62.2	40.3	19.8
self	2.8	-- ⁷	-- ⁷	0.8	5.0	0.5
Site of care						
physician's office	35.6	41.2	44.2	36.2	39.3	77.5
hospital clinic	38.7	35.3	31.9	35.8	35.0	13.2
community health center	12.8	9.2	17.7	16.1	9.3	2.1
HMO/other	12.8	14.3	6.2	12.0	16.4	7.3
Breastfeeding ⁶						
yes	69.9	63.1	76.3	49.2	72.3	61.8
no	30.1	36.9	23.7	50.8	27.7	38.2
Pediatric provider named						
yes	83.2	87.8	83.3	84.4	81.2	93.0
no	16.8	12.2	16.7	15.6	18.8	7.0

¹ Includes ethnicities listed as "Barbadian" and "Other West Indian/ Caribbean Islanders" in previous tables.

² Includes ethnicities listed as "Nigerian" and "Other African" in previous tables.

³ Includes infants weighing less than 2,500 grams (5.5 lbs) at birth.

⁴ See technical notes for definition of adequacy of prenatal care. Excludes cases with unknown adequacy.

⁵ Payment Source:

Private = Commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA, and other), or other private insurance

Public = Government programs including Commonhealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care): or free care

Self = Self-pay

⁶ Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

⁷ Percentages based on fewer than five events are excluded.

Note: Groups with fewer than 100 low birthweight infants are excluded.

Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A6.11 Number of Low Birthweight Infants by Prenatal and Postnatal Care Characteristics of Mother by Ethnicity: Massachusetts 1997-2000

	Haitian	Jamaican	West Indian/ Caribbean ¹	African- American	African ²	White Non- Hispanic
Low birthweight infants ³	398	123	114	1,675	223	14,784
Adequacy of prenatal care ⁴	279	87	79	1,040	154	11,609
Payment source ⁵						
private	176	64	61	598	118	11,609
public	206	54	51	1,040	89	2,919
self	11	3	1	13	11	76
Site of care						
physician's office	136	49	50	584	84	11,251
hospital clinic	148	42	36	578	75	1,916
community health center	49	11	20	260	20	303
HMO/other	49	17	7	193	35	1,056
Breastfeeding ⁶						
yes	272	77	87	815	159	9,080
no	117	45	27	842	61	5,605
Pediatric provider named						
yes	331	108	95	1,413	181	13,745
no	67	15	19	262	42	1,039

¹ Includes ethnicities listed as "Barbadian" and "Other West Indian/Caribbean Islander" in previous tables.

² Includes ethnicities listed as "Nigerian" and "Other African" in previous tables.

³ Includes infants weighing less than 2,500 grams (5.5 lbs) at birth.

⁴ See technical notes for definition of adequacy of prenatal care. Excludes cases with unknown adequacy.

⁵ Payment Source:

 Private = Commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA, and other), or other private insurance

 Public = Government programs including Commonhealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care); or free care

 Self = Self-pay

⁶ Mother was breastfeeding or was intending to breastfeed at the time the birth certificate was completed.

Note: Groups with fewer than 100 low birthweight infants are excluded.

Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

Table A6.12 Percent Distribution of Low Birthweight Infants by Infant Characteristics According to Ethnicity: Massachusetts 1997-2000

	Haitian	Jamaican	West Indian/ Caribbean ¹	African- American	African ²	White Non- Hispanic
Low birthweight infants ³	398	123	114	1,675	223	14,784
Birthweight (g)						
< 1,500	28.4	25.2	33.3	25.9	31.4	17.4
1,500 - 2,500	71.6	74.8	66.7	74.1	68.6	82.6
Gestational age (weeks)						
< 32	29.0	22.8	35.1	26.7	30.5	18.3
32- 36	40.7	50.4	39.5	43.0	23.8	48.9
37-42	30.3	26.8	25.4	30.3	45.3	32.7
43+	0.0	0.0	0.0	-- ⁴	-- ⁴	0.0
Singleton birth	84.7	78.9	82.5	79.9	64.1	63.0
Multiple birth	15.3	21.1	17.5	20.1	35.9	37.0
Sex of infant: female	52.5	45.5	56.1	51.8	56.1	51.4
Abnormal conditions of newborn	46.2	53.7	41.2	51.2	50.7	42.4
jaundice	21.9	28.7	17.9	25.9	28.1	21.6

¹ Includes ethnicities listed as "Barbadian" and "Other West Indian/ Caribbean Islanders" in previous tables.

² Includes ethnicities listed as "Nigerian" and "Other African" in previous tables.

³ Includes infants weighing less than 2,500 grams (5.5 lbs) at birth.

⁴ Percentages based on fewer than five events are excluded.

Note: Groups with fewer than 100 low birthweight infants are excluded.

Percentages may not add to 100% due to missing values. Percentages are calculated based only on those births with known values for the characteristic of interest.

Table A6.13 Number of Low Birthweight Infants by Infant Characteristics According to Ethnicity: Massachusetts 1997-2000

	Haitian	Jamaican	West Indian/ Caribbean ¹	African- American	African ²	White Non- Hispanic
Low birthweight infants ³	398	123	114	1,675	223	14,784
Birthweight (g)						
< 1,500	113	31	38	434	70	2,569
1,500 - 2,500	285	92	76	1,241	153	12,215
Gestational age (weeks)						
< 32	115	28	40	446	68	2,698
32-36	161	62	45	717	53	7,200
37-42	120	33	29	505	101	4,804
43+	0	0	0	1	1	7
Singleton birth	337	97	94	1,339	143	9,311
Multiple birth	61	26	20	336	80	5,473
Sex of infant: female	209	56	64	867	125	7,605
Abnormal conditions of newborn	184	66	47	857	113	6,275
jaundice	84	35	20	422	61	3,160

¹ Includes ethnicities listed as "Barbadian" and "Other West Indian/ Caribbean Islander" in previous tables.

² Includes ethnicities listed as "Nigerian" and "Other African" in previous tables.

³ Includes infants weighing less than 2,500 grams (5.5 lbs) at birth.

Note: Groups with fewer than 100 low birthweight infants are excluded.

Total numbers for individual characteristics may not equal totals for a particular ethnic group due to missing values.

**Table A7.1 Fetal and Infant Mortality for Black non-Hispanics by Ethnicity
and White non-Hispanics, Massachusetts: 1998-2000**

	Total Fetal Deaths			Total Infant Deaths			Total Feto-Infant Deaths		
	Number	Rate	95% CI	Number	Rate	95% CI	Number	Rate	95% CI
Black, non-Hispanic	151	8.7	(7.3-10.1)	210	12.2	(10.6-13.9)	361	20.9	(18.7-23.0)
Haitian	35	12.0	(8.0-15.9)	31	10.8	(7.0-14.5)	66	22.6	(17.2-28.0)
African ¹	15	7.8	(3.9-11.8)	27	14.2	(8.9-19.5)	42	21.9	(15.3-28.4)
African American	57	5.9	(4.3-7.4)	126	13.0	(10.8-15.3)	183	18.8	(16.1-21.5)
West Indian/Caribbean Islander ²	4	NA	NA	20	11.8	(6.6-16.9)	24	14.1	(8.5-19.7)
White, non-Hispanic	547	3.0	(2.7-3.2)	766	4.2	(3.9-4.5)	1,313	7.2	(6.8-7.6)

NA: Rate calculations based on fewer than five deaths are excluded.

¹ Includes ethnicity groups "Nigerian" and "Other African".

² Includes ethnicity groups "Jamaican", "Barbadian", and "Other West Indian/Caribbean Islander".

Table A7.2. Number of Fetal and Infant Deaths by Weight¹ and Time Period of Death, Black non-Hispanics and White non-Hispanics, Massachusetts: 1998-2000

Black non-Hispanic

	Fetal	Neonatal	Postneonatal	Total Feto-Infant
Weight¹				
All				
< 500 grams	82	80	0	162
500-1,499 grams	36	63	7	106
1,500+ grams	32	18	38	88
Total	151	165	45	361
African American²				
< 500 grams	30	41	0	71
500-1,499 grams	18	38	5	61
1,500+ grams	8	10	30	48
Total	57	91	35	183

White non-Hispanic

	Fetal	Neonatal	Postneonatal	Total Feto-Infant
Weight¹				
< 500 grams	168	183	1	352
500-1,499 grams	149	215	17	382
1,500+ grams	205	177	150	532
Total	547	595	170	1,313

1. Weight refers to birth weight for neonatal and postneonatal deaths and weight at time of delivery for fetal deaths.

2. Data are presented for African Americans, the largest ethnicity group among Black non-Hispanics.

Note: Total number for individual death categories may not equal totals due to missing values.

**Table A7.3. Feto-Infant Mortality Rates¹ by Weight² and Time Period of Death,
Black non-Hispanics and White non-Hispanics, Massachusetts: 1998-2000**

Black non-Hispanic

Weight²	Fetal		Neonatal		Postneonatal		Total Feto-Infant	
	<u>Rate</u>	<u>95% CI</u>	<u>Rate</u>	<u>95% CI</u>	<u>Rate</u>	<u>95% CI</u>	<u>Rate</u>	<u>95% CI</u>
All								
< 500 grams	4.7	(3.7-5.8)	4.6	(3.6-5.6)	0.0	(0.0-0.0)	9.4	(7.9-10.8)
500-1,499 grams	2.1	(1.4-2.8)	3.6	(2.7-4.5)	0.4	(0.1-0.7)	6.1	(5.0-7.3)
1,500+ grams	1.8	(1.2-2.5)	1.0	(0.6-1.5)	2.2	(1.5-2.9)	5.1	(4.0-6.1)
Total	8.7	(7.3-10.1)	9.5	(8.1-11.0)	2.6	(1.8-3.4)	20.9	(18.7-23.0)
African American³								
< 500 grams	3.1	(2.0-4.2)	4.2	(2.9-5.5)	0.0	(0.0-0.0)	7.3	(5.6-9.0)
500-1,499 grams	1.9	(1.0-2.7)	3.9	(2.7-5.2)	0.5	(0.1-1.0)	6.3	(4.7-7.8)
1,500+ grams	0.8	(0.3-1.4)	1.0	(0.4-1.7)	3.1	(2.0-4.2)	4.9	(3.5-6.3)
Total	5.9	(4.3-7.4)	9.4	(7.4-11.3)	3.6	(2.4-4.8)	18.8	(16.1-21.5)

White non-Hispanic

Weight²	Fetal		Neonatal		Postneonatal		Total Feto-Infant	
	<u>Rate</u>	<u>95% CI</u>	<u>Rate</u>	<u>95% CI</u>	<u>Rate</u>	<u>95% CI</u>	<u>Rate</u>	<u>95% CI</u>
< 500 grams	0.9	(0.8-1.1)	1.0	(0.9-1.1)	NA	NA	1.9	(1.7-2.1)
500-1,499 grams	0.8	(0.7-0.9)	1.2	(1.0-1.3)	0.1	(0.0-0.1)	2.1	(1.9-2.3)
1,500+ grams	1.1	(1.0-1.3)	1.0	(0.8-1.1)	0.8	(0.7-1.0)	2.9	(2.7-3.2)
Total	3.0	(2.7-3.2)	3.3	(3.0-3.5)	0.9	(0.8-1.1)	7.2	(6.8-7.6)

NA: Rate calculations based on fewer than five deaths are excluded.

1. Feto-infant mortality rate = number of deaths in a particular cell (see Table A7.2 for numbers)

divided by total number of fetal deaths and live births X 1000.

2. Weight refers to birth weight for neonatal and postneonatal deaths and weight at time of delivery for fetal deaths.

3. Data are presented for African Americans, the largest ethnicity group among Black non-Hispanics.

Note: Sum of weight-specific rates may not add to total rates due to missing values for birthweight or age at death.

APPENDIX II

TECHNICAL NOTES

Technical Notes

Limitations of small numbers:

Cells in some tables in this publication, and particularly those tables specific to the individual cities and towns, contain small numbers and are suppressed in accordance with the guidelines set forth by the MDPH-BHSR&E for suppression of confidential data. Proportions based upon less than five observations are suppressed, and trends based upon small numbers should be interpreted cautiously.

Self-reported data

Many items used in this publication, such as maternal smoking and type of health insurance coverage, are self-reported, and are subject to the usual limitations of this type of information.

Assignment of an Infant's Race/Ethnicity

Prior to 1989, the race/ethnicity of an infant was assigned by combining information on the race/ethnicity of the mother and the race/ethnicity of the father. Since 1989, Massachusetts has followed the recommendation of the National Center for Health Statistics of classifying births according to the self-reported race/ethnicity of the mother. Therefore, beginning in 1989, the race/ethnicity of an infant is identical to the self-reported race/ethnicity of the infant's mother.

The race variable was used to identify mothers for inclusion in this report. Mothers who selected Black as their race were included in this report. This report then utilizes the Ancestry/Ethnicity field from the birth certificate to select subgroups within those reporting Black as their race. The actual question on the birth certificate reads: "Please check one box which you feel best describes the mother's ancestry". A list of 42 ancestry groups is available from which to choose. The categories used for analysis in this report are: Cape Verdean, Haitian, Jamaican, Barbadian, Other West Indian/Caribbean, African American, Nigerian, and Other African.

Confidence Intervals and Infant Mortality Rates

The confidence interval (CI) provides a measure of stability of the IMR and a basis for comparing rates to determine if they are statistically different. Rates can be compared for the same group in different years, or for different groups in the same year. The width of the CI reflects the stability of the IMR. For example, a narrow CI reflects high stability, and a wide interval reflects low stability. If the CIs around two IMRs being compared do not overlap, the difference between the two rates is statistically significant. The following table and chart illustrate the concept of statistically significant differences using actual data from 1989 and 1992-1998.

Census Re-Allocation

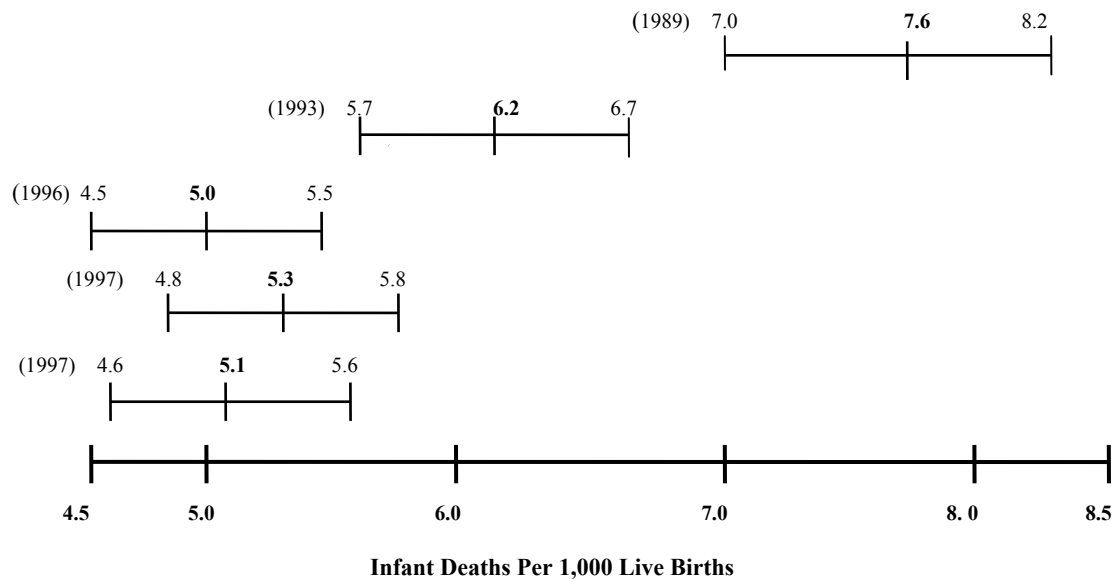
Respondents who indicated "Some other race alone" or "some other race in combination with other races", and those who indicated that they were "Two or more races" were

reallocated to the MDPH traditional “major” race categories: White, Black, American Indian, and Asian and Pacific Islander. They were reallocated to the race categories by town in proportion to the percentage of major race “alone” respondents for that town. For example, if a town had 30% Black alone, and 100 persons said that they were black and white in combination, then 30 persons (30%) were added to the number of Blacks and 70 were added to the number of Whites.

CONFIDENCE INTERVALS AND INFANT MORTALITY RATES

Comparison of Infant Mortality Rates and Confidence Intervals for Selected Years

Year	IMR (per 1,000 births)	95% Confidence Interval
1989	7.6	(7.0-8.2)
1992	6.5	(6.0-7.0)
1993	6.2	(5.7-6.7)
1994	6.0	(5.4-6.5)
1995	5.1	(4.6-5.6)
1996	5.0	(4.5-5.5)
1997	5.3	(4.8-5.8)
1998	5.1	(4.6-5.6)



The difference between the 1993 IMR and 1996 IMR is statistically significant – the confidence intervals do not overlap. The same is true for the differences between the 1989 IMR and the annual IMRs for 1993, 1996, 1997, and 1998.

Definition of Boston Neighborhoods

The following are the current MISER/MDPH definitions of Boston neighborhoods. These neighborhoods are defined by census tracts and are currently being used by MassCHIP and other MDPH researchers.

Neighborhood	Census tracts
Back Bay	0101-0108
Brighton/Allston	0001-0008
Charlestown	0401-0408
North Dorchester	0901-0924
South Dorchester	1001-1009
East Boston	0501-0512
Harbor Islands	1501
Hyde Park	1401-1404
Jamaica Plain	1201-1207
Mattapan	1010-1011
North End	0301-0305
Roslindale	1101-1106
Roxbury	0801-0821
South Boston	0601-0614
South End	0701-0712
West End	0201-0203
West Roxbury	1301-1304

Glossary

Abnormal Conditions

If at least one condition is recorded on the birth certificate from the following list: acidosis, anemia, congenital infection, cyanosis, Erb's palsy, or other birth trauma, fetal alcohol syndrome, hyaline membrane disease /RDS, hypotonia, hypoxia, intracranial hemorrhage, jaundice, meconium aspiration syndrome, positive toxicology screen, seizures, sepsis, tachypnea or other abnormal conditions.

Anemia

Hemoglobin level of less than 13.0g/dL, or a hemocrit of less than 39%.

Adequacy of Prenatal Care

The Index of Adequacy of Prenatal Care (based on the Kessner Index) has five categories (adequate, intermediate, inadequate, no prenatal care, and unknown), based on the trimester in which prenatal care began and the number of prenatal visits. It is a quantitative measure and is not a measure of quality of care. The general classification scheme for full-term infants is as follows:

Category	Trimester Care Began	Number of Visits
Adequate	1	9 or more
Intermediate	1	5-8
	2	5 or more
Inadequate	1	1-4
	2	1-4
	3	1 or more
No prenatal care	--	0
Unknown	Unknown	unknown

This classification is adjusted for gestational age to allow for proper classification of premature births.

Birthweight

The weight of an infant recorded at the time of delivery. It may be recorded in either pounds/ounces or grams. If recorded in pounds/ounces, it is converted to grams for use in this report.

1 pound = 453.6 grams

1,000 grams = 2 pounds and 3 ounces

Birthweight Categories

Low birthweight (LBW): An infant's weight of less than 2,500 grams (5.5 pounds) recorded at birth.

Very low birthweight (VLBW): An infant's weight of less than 1,500 grams (3.3 pounds) recorded at birth.

Breastfeeding

Mother was or was intending to breastfeed at the time the birth certificate was completed.

Cesarean Section or C-Section

Primary: A mother's first Cesarean section delivery.

Repeat: A Cesarean delivery that has been preceded by at least one Cesarean delivery.

Continental U.S.-Born

Born in the continental United States (50 states or DC) not including women born in Puerto Rico, the Virgin Islands, or Guam.

Diabetes

Metabolic disorder characterized by excessive discharge of urine and persistent thirst; includes juvenile onset, adult onset, and gestational diabetes during pregnancy.

Early Gestational Age or Preterm

Infants born before the completion of 37 weeks of gestation.

Eclampsia

A medical condition that affects women during or shortly after pregnancy. The condition may involve hypertension, edema, proteinuria, convulsions and coma.

Education

The number of years of education completed is provided by the mother on the birth certificate by the mother. The analysis of education presented in this report is limited to women 20 years of age and older.

Ethnicity

See the section in the Technical Notes titled: Assignment of an Infant's Race/Ethnicity

Fetal Death

A stillbirth delivered, extracted or expelled, at 20 weeks gestation or more and / or weighs 350 grams or more.

Feto-Infant Deaths

The total of all fetal and infant deaths combined.

Feto-Infant Mortality Rate

The feto-infant mortality rate is calculated by dividing the number of fetal and infant deaths by the total number of live births and fetal deaths, and then multiplying by 1,000. The rate represents the number of feto-infant deaths per 1,000 fetal deaths and live births.

Gestational Age

Gestational age refers to the number of weeks the infant was in utero. Infants born before the mother completed the 37th week of pregnancy are considered early gestational age or preterm.

HMO

Health Maintenance Organization.

Healthy Start

A Massachusetts-funded program providing services and financing for prenatal care to low-income pregnant women who lack health insurance, but do not qualify for Medicaid.

Hepatitis B Carrier

An individual with ongoing evidence of infection with hepatitis B virus, as determined by the presence of hepatitis B surface antigen in the blood, likely to be more than six months after an acute episode of hepatitis B virus infection.

Hypertension

This includes both chronic and pregnancy-related hypertension or high blood pressure.

Infant Death

Death of a child whose age is less than one year.

Jaundice

A syndrome characterized by high levels of bilirubin (a bilirubin count greater than 10) and a yellowing of the patient's skin.

Language Preference

Information on the mother's language preference is collected from the mother at the time of birth, based on the birth certificate question, "In what language does the mother prefer to read or discuss health-related materials?"

Live Birth

A live birth is any infant who breathes or shows any other evidence of life (such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles) after separation from the mother's uterus, regardless of the duration of gestation.

Low Birthweight (LBW)

See Birthweight Categories.

MISER

MISER is the acronym for the Massachusetts Institute for Social and Economic Research. MISER, which is the official state data center for the U.S. Census, generates the current population data for the number of Massachusetts residents.

NCHS

National Center for Health Statistics (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention).

Neonatal Death

Death of an infant whose age is less than 28 days.

Pediatric Provider

Information is collected from the following item on the birth certificate: ‘Pediatric Provider- Individual Practitioner’s Name’.

Perinatal Periods of Risk Model

The Perinatal Periods of Risk Model was first developed by Dr. Brian McCarthy and colleagues from the W.H.O. Perinatal Collaborative Center at CDC. It is a model used to monitor and investigate fetο-infant mortality and is based on a conceptual prevention framework. Fetal and infant deaths are categorized into 4 “periods of risk”, based on time period of death and weight at delivery, and each period of risk indicates a different focus of prevention (Maternal Health/Prematurity, Maternal Care, Newborn Care, Infant Health).

Postneonatal Death

Death of a child whose age is at least 28 days, but less than one year (365 days).

Private Insurance

Commercial indemnity plan, commercial managed care (HMO, PPO/IPP/IPA, and other), or other private insurance.

Public Insurance

Government programs including Commonwealth, Healthy Start, Medicaid/MassHealth, and Medicare (may also be HMO or managed care), or free care.

Occurrence Birth

A birth occurring in the Commonwealth of Massachusetts, regardless of the residency of the mother. For individual cities/towns, an occurrence birth represents any birth occurring in that city/town, regardless of the residence of the mother. See Resident Birth.

Parity

The total number of live infants ever born to a woman, including the current birth.

Plurality

The number of births to a woman produced in the same gestational period. A singleton is the birth of one infant, twins represent the births of two infants, etc.

Race

See the section in the Technical Notes titled: Assignment of an Infant's Race/Ethnicity

Resident Birth

The birth of an infant whose mother reports her usual place of residence is in Massachusetts. In Massachusetts, a resident is a person with a permanent address in one of the 351 cities or towns. Vital statistics data may be presented in terms either of residence or occurrence. All data in this publication are resident data. Resident data include all events that occur to residents of the Commonwealth, wherever they occur. Occurrence data include all events that occur within the state, whether to residents or nonresidents. There is an exchange agreement among the 50 states, District of Columbia, Puerto Rico, Virgin Islands, Guam, and Canada that provides for exchange of copies of birth and death records. These records are used for statistical purposes only, and allow each state or province to track the births and deaths of its residents.

Small for Gestational Age

The measurement of “small for gestational age” refers to the weight of the infant after taking into consideration the number of completed weeks of pregnancy.

Smoking

Information on smoking status, both before pregnancy and during pregnancy, is provided on the birth certificate by the mother.

Unmarried

Mothers who were unmarried within 300 days of delivering their infants.

U.S.-born

Born in the United States, its possessions, or its protectorates. Those born in Puerto Rico, the U.S. Virgin Islands, and Guam are considered U.S.-born.

Very Low Birthweight (VLBW)

See Birthweight Categories.

Massachusetts Birth Certificate

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The Commonwealth of Massachusetts
DEPARTMENT OF PUBLIC HEALTH
REGISTRY OF VITAL RECORDS AND STATISTICS
STANDARD CERTIFICATE OF LIVE BIRTH

STATE USE ONLY

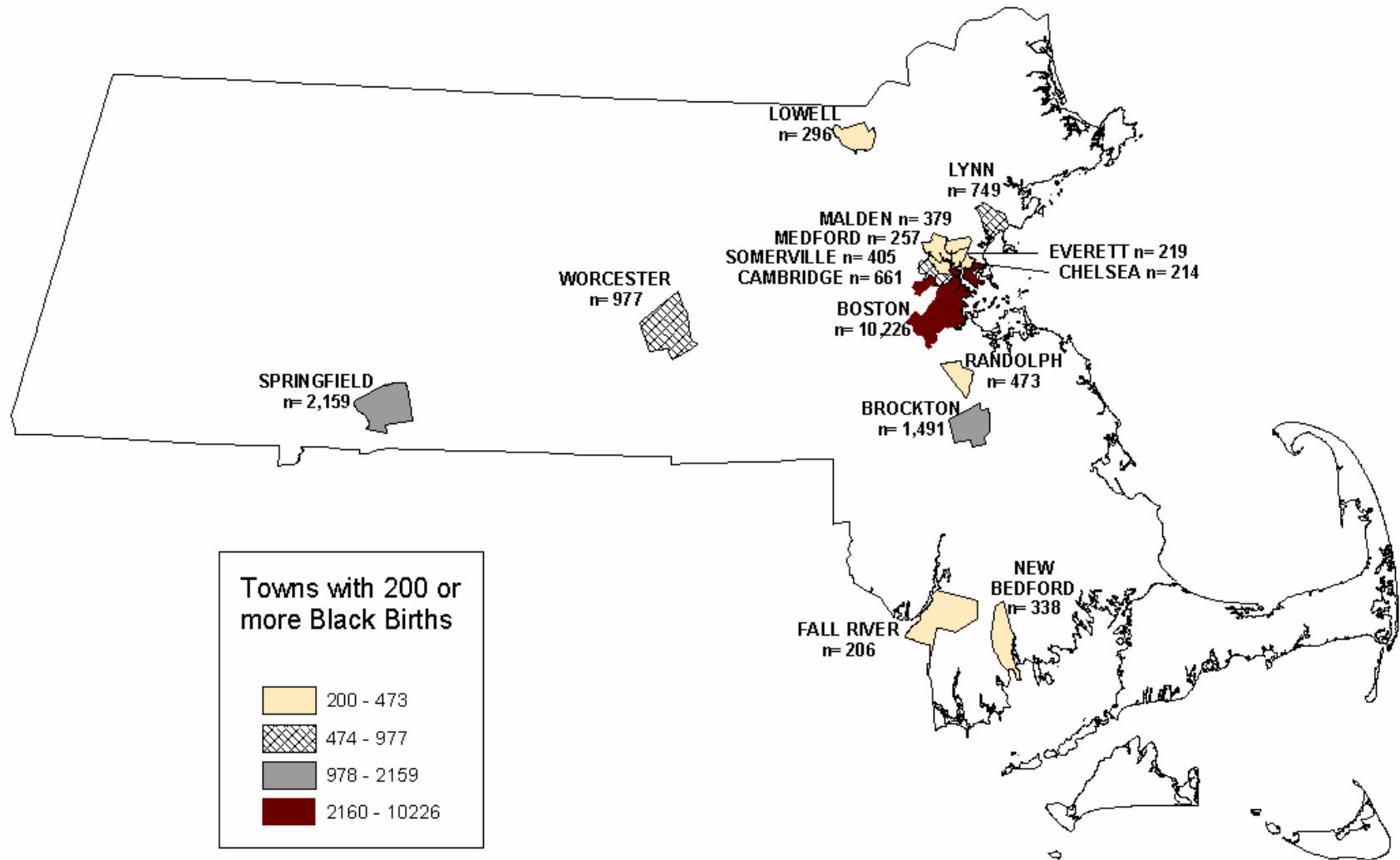
ORD NUMBER 68283 RTIFICATE NUMBER (H USE ONLY)	C H I L D	3C. CITY/TOWN				
3B. COUNTY						
		3A. FACILITY NAME-IF NOT IN FACILITY, NUMBER AND STREET				
		NAME	4A. FIRST	4B. MIDDLE	4C. LAST	
ITY NUMBER	D	5. SEX	6A. PLURALITY	6B. BIRTH ORDER	7. TIME	8. DATE OF BIRTH (Month, Day, Year)
	C E R T I F I E R M O T H E R F A T H E R	8A. NAME				9B. TITLE
		9C. CERTIFIER TYPE				9D. LICENSE NUMBER
		9E. NUMBER AND STREET		9F. CITY/TOWN	9G. STATE	9H. ZIP CODE
		NAME	10A. FIRST	10B. MIDDLE	10C. LAST	10D. MAIDEN SURNAME
		BIRTHPLACE	11A. CITY/TOWN	11B. STATE/COUNTRY		12. DATE OF BIRTH (Month, Day, Year)
		RESIDENCE (Do not use mailing address)	13A. NUMBER AND STREET	13B. CITY/TOWN	13C. COUNTY	13D. STATE 13E. ZIP CODE
		NAME	14A. FIRST	14B. MIDDLE	14C. LAST	
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INITIALS		17A. I (WE) CERTIFY THAT THE PERSONAL INFORMATION APPEARING ABOVE IS TRUE AND CORRECT.				17B. RELATIONSHIP TO CHILD
ESIDENT COPY		17C. DATE SIGNED (Month, Day, Year)	17D. MAILING ADDRESS (If different from Item # 13 above)	NUMBER AND STREET	CITY	STATE ZIP CODE
INITIALS	18. DATE OF RECORD (Month, Day, Year)	19. SUPPLEMENT FILED (Month, Day, Year)		20. CLERK/REGISTRAR		
	21. DPH USE ONLY					

1. OCCURRENCE

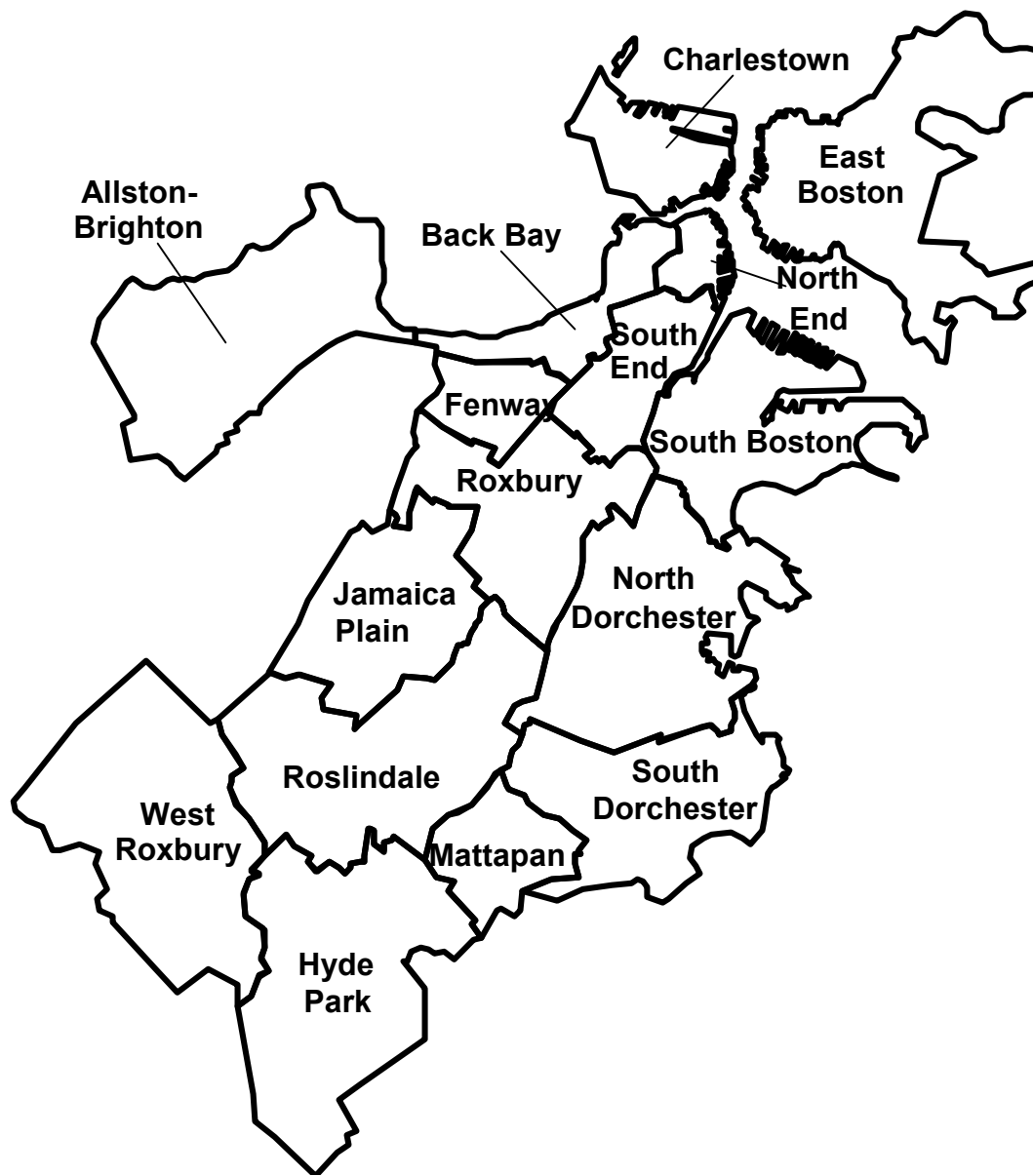
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Massachusetts Black Births 1997-2000



Boston Neighborhoods



Births to Black Mothers in Massachusetts: 1997-2000 Evaluation Form

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